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THE PROFESSOR IN INDIA.

"It is gratifying to note that the percentage of passes in such-and-such a subject rose from so much to so much"; "it is much to be regretted that the percentage of passes fell from so much to so much." How often do these and similar sentences find a place in the annual reports of the various educational institutions and departments of India! How frequently—one might almost say, invariably—are they the only expression of the estimation on the part of the superior authority of a Professor's work during a whole year! How truthfully do they reflect the popular method of arriving at an educationist's worth! For how much are they responsible! It needs but the most casual observer to notice the difference which exists between the duties and responsibilities of the Professor in Europe and those of his representative in India—a difference, which is attributable to causes which we propose to discuss.

What is the work of a Professor in Europe and how is that work estimated? He delivers *bonâ fide* professorial lectures to persons who fully recognise the difference which should exist between

teaching in a school and lecturing in a college; in his opening lectures he lays the foundation of the subject; to his students he leaves the raising of certain portions of the superstructure with full confidence that in the majority of cases these portions will be properly raised; he devotes a large proportion of his lectures to those portions of the subject, in which investigation or prolonged study has made him an expert and on which he speaks as an acknowledged authority; he occupies his spare time—and owing to his short hours of teaching work, he has ample time to spare—in research or deep study or both. His work is judged by the actual merits of his lectures, by the manner in which he lays before his students in particular and the public in general the results of his investigations and researches, and possibly by the success of the pick of his students at some examination of very high standard. Let us now glance at the condition under which the Professor in India works. On arrival in this country he is told off to prepare for a certain examination a number of students who are imbued with a belief in the doctrine that there is but little difference between the method of teaching school-boys and that of lecturing to college students, and who would feel aggrieved if they were not to a certain extent instructed like school-boys; he is given the prescribed syllabus and must deal with all portions of it in the same manner; if he lays the foundation of the subject and expects his students to build on certain portions of the foundation, he is apt to be disappointed, for not one student in ten is capable of doing so; if he goes deeply into any portion of the subject, which he has specially studied or concerning which he has made any investigations, he knows that the majority of his students think he is wasting his time and theirs too; he has fairly long hours of teaching and the time he has at his disposal for investigation and deep study is correspondingly curtailed. How is his work judged? Chiefly by the percentage of passes obtained by his students in his subject at examinations of not particularly high standard. In other words, the Indian Professor in addition to his professorial duties, is burdened with the responsibilities of a "coach."

Though doubtless the percentage demon is mainly responsible for the existing state of affairs in connection with the Professor in India, there are other causes which have contributed to bring about the same result. The intimate connection between schools and

colleges is one of these causes, for it has implanted in the Indian mind the belief that a college is only a school of higher grade and that college students should rely on their lecturers to the same extent as school-boys do on their teachers. In his able address at the recent Convocation of the Madras University, Mr. Cook, of the Central College, Bangalore, dwelt on the evils of the present system and he spoke from personal experience. The effect on colleges of this system is aggravated by the fact that in schools, preparing candidates for the entrance examinations of the various Indian Universities, the boys are not led into the way of using books or of relying on themselves for obtaining information. The majority of youths, who enter upon University education, do so therefore with rudimentary ideas of acquiring knowledge from books or other sources. To make up for these deficiencies the college student is to a great extent instructed after the manner of a school-boy and is kept very long hours under instruction and of course the Professor ... frame his lectures to suit the requirements of his students ... is to work correspondingly long hours. He has but little time ... anything more than his college work. The examinations of ... Indian Universities too must be held responsible for fostering the system mentioned, for they come under the category "cut and dried." Little scope is allowed for independent thought and a Professor, who occupied his students' time with his own investigations and researches or who encouraged them to undertake much work outside of that which is prescribed in the syllabus, would run the risk of imperilling success. These defects can hardly be set right in a moment, having grown up out of the system under which education has been fostered.

A brief comparison between the life-history of the Professor in Europe and his colleague in India will reveal the difficulties under which the latter labours. The Professor in Europe takes his degree probably with high honours and reads a particular subject for two or three years after. He then becomes an assistant to some well-known Professor and assists the great man at his researches and investigations and this stage of his existence may last for five or more years—all the while he is to a great extent a student. His next appearance is probably as a teacher of junior students and during this period he may go in for independent research or for study. If he gets a reputation in certain circles he blossoms into

a Professor and of course he goes on with his researches and studies. The Professor in India usually takes a very good degree or diploma and commences to travel along the line, which, did he remain in Europe, would eventually lead him to a Professor's chair. But after travelling along that line for a short time he hears of a vacancy in India which seems to offer him congenial work and a field for distinction; he applies for and obtains the post. In a month or two he lands in this country and at once commences his work as a Professor under the conditions already mentioned. He is the victim of circumstances.

PUBLIC INSTRUCTION IN THE N.-W. P. AND OUDH DURING 1895-96.

We much regret the unavoidable delay which has occ[illegible] noticing the above-mentioned report for it contains matter [illegible] to interest our readers.

The total expenditure on education amounted to a little o[illegible] 35½ lakhs of rupees, an increase of nearly 1¼ lakhs over the figure for the preceding year. The expenditure was met as follows:—from Public revenues, 54·38 per cent., from Municipal revenues, 2·97 per cent., from Fees, 25·69 per cent., and from Endowments, &c., 16·92 per cent. Notwithstanding the increased expenditure the number of scholars at public institutions slightly decreased, as may be seen from the accompanying statement:—

	1894-95.	1895-96.
Boys.		
University	2,595	2,356
Secondary	52,992	52,111
Primary	150,345	149,807
	205,932	204,274
Girls.		
Secondary	2,149	2,433
Primary	7,420	7,996
	9,569	10,429

The raising of the school fees in colleges and English schools and the general hardness of the times appear to be the explanation of

the decrease among boys. The improve nce at girls'
schools though satisfactory affects but a special section
of the community as it is chiefly the or missionary effort.
In paragraph 12 of the report an ar to the question
asked by Government in reviewing for 1894, as to
why the cost of Collegiate, Secondary education per
scholar is so much higher in than in Bengal, the
Punjab, and the Central Provi flower's inquiries
bear out his conclusions that (1) as education,
the scarcity of colleges in these provinc
essors (2) as regards Secondary educative pro-
f expensive Anglo-Vernacular Schools ortion regards
ducation, the absence of private enterprise, are the mai
the great disparity. In the case of Secondary edu
aising of the school fees in State and aided schools see
d much the same effect, judging by the instance m
ragraph 49 of the report as to the opening of two new
schools in Bareilly. In the case of University edu
dition of college classes to the unaided Kayasth Pa
ahabad is an indication of the direction in which priv ate
se may be expected to move with a view of supplying
legiate education than is procurable in the large G ac
d aided colleges. Government

number of Arts' colleges rose from 15 to 16, of which
re State, six aided, and seven unaided. The average en-
of scholars was 1,506 against 1638 in 1894-95. As might
ted the large majority of scholars were Hindus. The de-
attributed to the enhancement of the fees but the officia-
ector does not think the check thus given to higher
on will be lasting. The falling off in attendance was ac-
ied by a decrease in the number of candidates for the Uni-
examinations and by a proportionally larger decrease in
centage of passes for the F.A. and B.A. degree.

	M. A.			B. A.			Intermediate.	
	Candidates	Passed.		Candidates	Passed.		Candidates	Passed.
...	38	27	...	275	85	...	597	209
...	39	22	...	251	123	...	581	238

The examination fiend in the North-Western Provinces and
does not differ apparently from his fellow elsewhere,

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he Director attributing the failures at the B.A. ex-
for apers of unusual difficulty in English and Philosophy
ami a desire for "uniform standards of examination."
and mination the number of students who took up the
In terary course) was 187; the number for the "B
"A ourse) was 64.
cou udents were apparently well off for boarding ac
Muir College needed a boarding house for Hin
which has been already supplied by private liberality i
of Muham madan students. The Agra College, the Anglo
mmadan College at Aligarh and the Canning College at Lu
y were well provided with boarding accommodation, while S
John's College at Agra and the Meerut College were endeavourin
to increase their hostel accommodation.

The attendance at the Sanskrit College, Benares, increased fro
327 to 37, so at Benares at any rate Oriental learning is not at
discoun t as it appears to be elsewhere. 86 candidates appeared f
the Acharya Pariksha Degree (which is not recognised by the U
versity) and passed. It is not clear what becomes of the pers
who hold the degree.

The Anglo-Vernacular schools for boys had 27,846 schol
attending them and cost about 7¾ lakhs of rupees. The attend
decreased except in unaided schools and the cause of the decr
is stated to be the higher rate of fees. In 1894-95, thes
had 28,368 scholars and cost 7¼ lakhs. The results of the
School Final examinations were better than in the p
and S... We are not told in the report whether "uniform s
year. ... ination" were maintained or not at these tests.
of exam... of starting special class in Anglo-Vernacular
perimen... have passed the Middle School examinat
for boys, who ... ls, has demonstrated by its success the
Vernacular schools ... power involved in the old system of atter
time and teaching ... boys who had not been first grounded in t
teach English to bo... B
nacular. *Verb sap!* ... Vernacular schools for boys show the
The statistics of ... of the eastern portion of the provinces
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total number of schools ... the explanations given to account fo
ness and scarcity are ...
The new policy of extending the grant-in-aid system to Vern

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...s should result in an increased school attendance though the ...esults may not be seen so long as seasons of scarcity occur.

The three Normal schools at Allahabad, Agra, and Lucknow ...ere reorganised during the year, and a satisfactory curriculum has been laid down for the training of Vernacular teachers. The report seems to show that a good deal is yet required before the provinces can be said to be up-to-date in the matter of supplying trained teachers to schools.

Technical Education was represented during the year by the Law classes attached to eight Arts' colleges, the Agra Medical School, the Thomason College of Engineering, the Agricultural School, Cawnpore, and a few Industrial schools at Lucknow and elsewhere. The number of students in the Law classes fell from 752 to 602. It may be mentioned that commencing with 1899, only graduates in arts and science will be allowed to proceed to the Law degree.

The statistics for Female Education are interesting in that they show that missionary effort in that direction tends to good results.

Class.	*Number of Scholars.* 1894-95	1895-96
Aided Anglo-Vernacular Schools (Mission Schools)	1,290	1,521
State Primary Vernacular Schools (District Board Schools)	2,990	2,997
Aided Primary Vernacular Schools (Mission Schools)	4,083	4,535

In all the three classes the expenditure from public funds decreased owing chiefly to the greater stringency which has been enforced in the conditions of the grant-in-aid code.

There were 21 aided European schools for boys with 1,741 scholars and in receipt of grants aggregating Rs. 54,095 and 22 aided European schools for girls with 1,561 scholars and receiving Rs. 54,192. The figures do not differ materially from those of the previous year. The Colvin Taluqdar's School at Lucknow seems to command the confidence of the Taluqdars. The sons of one or two native gentlemen from the N.-W. P. were studying in the school.

The Resolution attached to the report commences with the following interesting paragraph:—"In his orders on the report

for 1894-95, Sir Antony MacDonnell took the opportun[ity of] reviewing the state of public education in these provinces as [dis]closed by the quinquennial statistics, and indicating the poin[ts in] which the provinces in this branch of the administration compa[red] unfavourably with other parts of India. It was remarked that the number of children in the North-Western Provinces and Oudh receiving education of the simplest form was, relatively to the population, less than in any other province; that the total expenditure on education from public funds was small, relatively to the aggregate provincial and local revenues, and that of this expenditure an undue proportion was devoted to Secondary, and to English, education; that the average cost of each child under instruction was excessive; that the receipts from fees, especially in the case of High schools and colleges, were below the standard prevailing elsewhere; and that the training provided for teachers by means of Normal schools was altogether insufficient. To popularize education while making it more economical was suggested as the general principle which should now be followed by the Government and the Department. In pursuance of this policy the Government undertook to increase its grant for primary education to the utmost extent of its financial ability, and an addition of Rs. 75,000 was made for this object in the current year. Changes have been introduced in the curriculum of Anglo-Vernacular schools to ensure that in all the Primary classes the Vernacular should be the exclusive language of instruction. The Vernacular Normal School at Lucknow has been expanded into a training college for English teachers. A commencement has been made to co-ordinate primary industrial schools with the Thomason College of Engineering by appointing the Principal of that College the *ex-officio* Visitor of the Industrial School in Lucknow and other similar institutions, and by sanctioning the formation of special industrial classes in the College to which deserving students from primary industrial schools may proceed. Lastly, steps have been taken, in communication with District Boards, to extend Primary education of the simplest character by means of grants-in-aid to existing indigenous schools and to persons undertaking to open new schools. It is too early to judge of the effects of this measure, but its progress will be watched with the greatest interest. If it succeeds, it will do more than anything else to make elementary

ucation popular and to wipe out the reproach of ignorance attach- to these provinces."

The Government shows its appreciation of the administration of the officiating Director in the following terms:—"The acknowledgments of the Government are due to the officiating Director, Mr. Boutflower, for his administration of the Department during the absence on leave of Mr. T. C. Lewis, the Director, and also for a careful and interesting report, which in arrangement and statistical tables marks an advance on the reports of former years, and which is sufficiently full and at the same time concise."

DEPARTMENTAL STORIES.

By "Riverside Dweller."

Confessions of an Inspecting Schoolmaster, Madras Presidency.

Having served twenty years as the Inspecting Schoolmaster of the Bogusnugger Taluq, and having decided to shortly retire (without pension), I wish to leave on record for the benefit of my son-in-law, for whom (by various means) I have secured the appointment, my experiences in the post. I am now in the first grade on Rs. 35 a month with a travelling allowance of Rs. 10 a month. I began life penniless but twenty years' hard service has enabled me to buy land worth over Rs. 10,000 and I intend to spend the rest of my life in cultivating ease.

I always consider my official designation to be a misnomer for I do not "inspect" schools or "pass grants"—I wish I could—but I am supposed only to "visit" schools and see to their progress. This however is a small matter. "What's in a name," a well-known quotation from an author, whom I can't at present recall, applies to my case.

Now for my duties.—I am on tour (or rather, I am supposed to be on tour) on all days of the month except the first three and the last three. These six days I am permitted to be at headquarters. I am supposed to "visit" Lower Primary schools, to assist the Sub-Assistant Inspector and Assistant Inspector in ex-

amining Primary and Lower Secondary schools respectively, an as if this were not sufficient, I am compelled to assist the Sub-Assistant Inspector and the Inspectress of Girls' Schools in examining Girl's schools of the above grades. Of course one has to be subservient to the officers mentioned and remarkably polite to their clerks. I have to be especially polite to the Sub-Assistant Inspector's clerk, for my diaries go to him. These clerical gentlemen however are easily satisfied. All they require is a lift in my bandy, when they and I accompany their official superiors on tour and the free supply of meals by the various results schoolmasters. Politeness to them costs me nothing. One would imagine that having so many people to please would be enough for one man, but here again imagination is at fault, for in financial matters I am under the Taluq Board President. My pay, travelling allowance and batta bills have to be passed by him—that is, by his clerk. I have therefore to be polite to the latter even to length—alas! for human frailty—of giving him a percentage. If this is not done, I run the risk of having objections raised to my bills especially the batta ones. My promotion again depends on the Inspector of Schools and the President of the District Board. I have therefore to be very polite to the Head Clerks under these officers.

I should be sorry however to give anyone, and especially my successor, the impression that the post has no corresponding advantages. When I "visit" results schools, the schoolmaster provides me with lodgings and meals. The only payment I make, is to connive at all the schoolmaster's irregularities. For instance, he may present pupils for examination before the Assistant Inspector and Sub-Assistant Inspector when they (the pupils) have not put in the attendance (six months) required by the Grant-in-Aid Code. All I have to do is to manipulate the attendance and admission registers so as to make the boys eligible for grant. This is a very simple matter. Again I have to connive at the same boy being presented three or four times for grant under the same standard, thus:—One year a boy will appear for the Third Standard under the name of Krishnaswami and he will get a grant for the school. He will work in the fields for a year, and the next time the Sub-Assistant comes round, the same boy, without any further preparation beyond a few days, is presented for the same standard as Ramaswami and he gets another grant for the school. All the

l expect is a small percentage of the grant. The ıme boy can be hired for examination in the Third the name of Gopalswami and, being used to the ll probably get a merit grant. All I have to do is he admission and attendance registers, but, as I , this is a very simple matter. Of course—in fact, essary to mention it—of every grant earned by a proper share in kind if not in money.

ed while on tour to visit at least one village *per* show my work in my diary. Life would not be one had to fly about the Taluq as the authorities). The way I manage to escape the constant tour- s:—I go to a large village where I can command ience and live there for a week. I send for the rs from seven adjoining villages within a radius of five s telling them to bring their registers and books with at my leisure I manipulate the registers. I take care to my name with the correct date in the books, kept by the masters, in token of my visits; and, of course, I ar careful about the date. I also make assurance doubly sure ding my letters to my superior with the name of the village ere I am supposed to be on a particular date. I have never yet been discovered in this trifling irregularity, for the Sub-Assistant Inspector's monthly programme is communicated to me and I always know that officer's whereabouts. How often have I visited seven schools in seven different villages on seven different days without moving a yard!

Power is sweet and I have a great hold on the schoolmasters in my range. A certain number of them must be sent to the Training School every year to be trained; otherwise, the Head Master of the Training School reports me to the Inspector of Schools, an officer with a very heavy heel, who comes down on me like a thousand of bricks. I invariably choose my enemies, giving them the necessary certificates. The villagers always think that a schoolmaster in sent to the Training School because the Inspecting Officer thinks he is a bad teacher, for they argue that a good teacher would not require to be taught how to teach. Consequently when a man returns to his village as a "trained teacher" he finds his reputation ruined.

I have it in my power to do good to my friend
"Assignment Grant System" I have to allot cert
grants which can be earned by various schools.
procedure is obvicus.

The Local Board maintains a number of Prim
the appointment of the teachers practically lies witl
the salaries are very small, (Head Master, Rs 5; 2
or Rs 2½; allowance to the teacher who does
extra), the rush for these posts among local m
They gladly pay six month's salary for a nomi
these appointments. I find it answers best to
men" for they won't pay anything, being recomm
the Sub-Assistant Inspector by the Head Master o
School.

I am also to a certain extent a tradesman for I ha
of books, maps, &c., for sale to results schoolmasters, fo
get a five per cent. commission. I have the advantage howev
an ordinary tradesman in that I can put pressure on my custo
to purcha m me.

The ner educational authorities always judge an Inspecting Schoolma ter's work by the increase in the number of schools in his range on the 31st March of each year. I have no patent for the following dodge for obtaining favour in the sight of the higher authorities, for I learnt it from several obliging brother officers. This is the way it is done :—At the beginning of March I go to a village and get hold of the Village Munsiff, that petty rustic Czar, who will have no difficulty in getting some one to open a school. The necessary form for "recognition" is most elaborate but this does not giv much trouble and "recognition" is easily obtained. If there is anything really wanting, "conditional recognition" can easily be got. The school then appears in the returns for the year ending 31st March, that being the date on which the enumeration takes place. The establishment can be closed on the 1st April and need not be re-opened till the following March. In this way, I have succeeded in showing an increase of about 200 schools in my range during my 20 years' tenure of office. Most of them only exist during the month of March. I was much amused, when reading the March number of the *Indian Journal of Education*, to find in the

article headed "Public Instruction in the Southern Presidencies during 1895-96" the following:—"While Bombay can accommodate 627,541 pupils in 10,082 public institutions, Madras requires for the accomomdation of 689,191 pupils no less than 20,932 public institutions." If the Editor had only asked me for an explanation, I could have cleared his doubts for him in a moment.

On the whole, though a man of commercial instincts would do much better in the Revenue Department or the D. P. W., he would find a very fair field for his abilities as an Inspecting Schoolmater.

TEACHING OF GEOMETRY IN INDIAN SCHOOLS.

The formal study of Geometry commences at an early stage in Indian schools. The pupils who begin the subject are usually under twelve years of age and they have gone through a school course of say five years. They have been trained in the power of abstraction in its simpler processes as the result of their progress in arithmetic, and they have also been dealing with abstract quantities; they have been taught to perceive the reasons for the various steps in solutions made by them. They have learnt to make out points of connexion between the several parts at the various operations, the reasons of performing a step, how this step leads to a farther step and so on. They have also acquired a fair degree of facility and accuracy in arriving at the required results by means of their calculations. The work that they have all these five years been accustomed to, has been more or less of a mechanical or routine character. The transition from this kind of work, to the particular kind they have to do in relation to Geometry, has generally, in commencing the subject in the customary manner, been attended with a considerable degree of difficulty both to the pupil and to the teacher. The subject of Geometry begins with abstract conceptions and these abstract conceptions have to be used again and again in the regular chain of demonstration. The pupils are required to proceed from one abstract conception to another abstract conception and to establish conclusions from previously established conclusions. The abstract conceptions, embodied in general terms and represented by means of diagrams, have to be rea-

lised. With a view to train the pupil to this course of abstract reasoning and to remove the difficulties that beset the young pupil who begins the study of Geometry, important suggestions and great improvements have been sought to be introduced within the last few years as regards the teaching of the subject. Very great attention is paid in Europe and in America to the manner in which the subject should be introduced in Elementary teaching. Euclid's text has been revised, new principles have been brought in, wider applications have been given and syllabuses and text-books on Geometry on improved lines have been introduced. We should hope that, by pursuing a method such as is suggested in the Syllabus published by "The Association for the Improvement in Geometrical Teaching," the subject would be rendered easy and interesting to the beginner and that the present uphill system of teaching would soon be at an end.

But what is our schoolmaster here required to do? Notwithtanding the serious objections to the suitability of Euclud's Elements to the beginner as a text-book, it still continues to be used as one, and in the curriculum laid down in the Madras Educational Rules, the order of the 'Elements' and the very numbers of the propositions, are prescribed. In the circumstances, the question is 'how shall the teacher attempt this work.' The book begins with definitions and axioms, abstract things which have been derived by observation and experiment by early investigators. Therefore, the method for the teacher in the initiatory stages should be the method by which these abstract conceptions have been arrived at, *viz*, the inductive process—from the concrete to the abstract. The Pestalozzian system of concrete helps the pupil to a considerable extent, puzzles him less, and recalls to his mind and presents to it images of the concrete introduced to illustrate and impress the ideas of the definitions &. The teacher of Geometry must therefore follow this method and do the best he can till he develops in his pupils that stage of intellectual growth which will enable them to think of the abstract irrespective of the concrete from which the property was abstracted, and to continue a course of reasoning on the abstract only. It is very desirable that before pupils pass to the formal study of the 'Elements,' the teacher should endeavour to have secured to them a stock of notions so as to form a sufficient basis for him to work upon. True it is that pupils do possess a large number of these

notions as the result of their daily observation and experience; but these notions are generally in a crude and unscientific form. A better class of notions, and generally more definite in character, is found in the minds of those pupils who have had as a part of their preliminary training a number of lessons on Form which constitute a prominent part of the Kindergarten system. Their eyes having been trained to observe the forms of objects, they show a special readiness in grasping the conceptions of Geometry. The Kindergarten system provides a graduation in the concrete which it places before the children and starting with the regular solids, the most tangible and the concrete, it proceeds to planes and then descends to lines and points; and the early conceptions of Geometry are only an advanced stage in the consideration of form. The method of Kindergarten suggests to the teacher the key to the method of the first lessons he has to give before taking his pupils to the Elements of Euclid. With the help of the first solids, the sphere, the cube and the cylinder between the two dissimilar solids, the teacher can give his pupils ideas of form, size, edges, corners, &c., and by the use of paper boxes, balls, &c., the pupils can be led to ideas of surfaces, plane and curved. Treating of planes or surfaces in a similar manner by reference to familiar concrete examples, after getting the pupils to understand level and not-level surfaces with the help of the ruler ,and the various forms of these surfaces with a lump of clay, the teacher should proceed to give ideas of lines by the use of sticks, rings &c. Sticks again can be used to explain their various positions with reference to the table as lying down, slanting, and upright, and their lengths may be indicated, as is done in common language by "from this to that," meaning the extreme limits of the length of the sticks. By proccesses similar to those above indicated, the teacher should get the pupils to acquire ideas which may now and then be referred to, for purposes of clearing any difficulties which may occur at a later stage. Now comes up another difficulty. The use of the concrete and of the illustrations above mentioned may have tended to form in the minds of the pupils an idea different from the idea intended to be conveyed by diagrams such as are used in plane geometry Children know that a stick stands upright and this idea has to be transferred to a straight line standing upright. How is this to be done. The teacher falls back on drawing. As often as is possible, children should be re-

quired to copy down on their slates concrete presentations on the teacher's table and by dwelling sufficiently on their performances on their slates and on similar ones on the black board, the teacher should lead them to see that, in diagrams, lines are all level and that these level lines may be in any position on a surface. Having familiarized the pupils with the fact that Geometry deals with lines &c., all in reference to a plane, the teacher should next prepare his pupils to acquire certain conceptions which will enable them to sail easily when the book is placed in their hands. The straight line and the curved line having been understood, the next step is for the teacher to indicate the various positions of these lines tending to make angles and forms (or figures), with the help of pieces of string, a pair of compasses and the jointed slats: and by suitably cutting paper or cardboard figures, the teacher can easily impart as much knowledge as is presupposed in the later learning of the definitions &c. To enable the teacher to acquire sufficient facility in explaining and illustrating, we would refer him to the first few pages of "First Lessons in Geometry" by B. Hanumantha Rao or of "Wormell's Plane Geometry."

When the pupils begin to use the text book, the teacher should first of all explain the *matter* of each definition fully to the pupils, using abundantly concrete illustrations similar to those that were used in the early oral lessons. They should then be required to read from the book each definition which has just been explained, and by means of sufficient questioning the teacher should see that it has been clearly understood; and the form of language in which the ideas are expressed should not be forgotten. The pupils should be invariably required to draw appropriate diagrams with the help of a ruler and a pair of compasses if necessary, and very soon they should be accustomed to draw neat and exact figures without the need of these mechanical aids. Having fully mastered the definitions, axioms &c., the pupil proceeds to learn the propositions. The teacher will be able to see what preliminary instruction will be necesssary to a clear understanding of the various parts of the propositions to be learnt, and having imparted this preliminary instruction, the teacher should go through the propositions, eliciting from the pupils the various steps. When he is satisfied that the pupils have grasped the different parts, they should be required to open their books and to read part by part; and when a definite

portion has been read, the teacher should question on the portion read and establish its relation to the parts going before and thus express the value of each of the steps in its bearing on the required result. As a rule, the treatment in the book of a proposition scares the pupils and it is with the object of familiarising them with the processes of consecutive reasoning, that the above method embracing a preliminary oral teaching, explanation of matter in the book and a final recapitulation is recommended. This full and detailed course of teaching would be needed only up to a certain stage of progress and when the pupils have got into the way of geometrical treatment, a new proposition may be set to be prepared at home to be examined and treated more fully on the following day. It is very necessary that pupils should be early trained to solve easy riders. The practice of introducing riders at the end of each proposition learnt, is a little too suggestive of the method of solution, and may be suitable in the early course of solving riders. Independent riders, the solution of which have to be discovered by the pupils by analytical method, give far more exercise to the pupils' powers than riders under a proposition. The teacher in teaching riders should lead the pupils to discover the solution by the analytical method and then follow up the discovery by a synthetical method of proof which will be readily given by the pupils.

ALLAHABAD UNIVERSITY—INTERPRETATION OF BY-LAW 30.

The Calendar of the Allahabad University contains a number of "By-laws of the Syndicate" these being defined as follows:—

"A by-law of the Syndicate is any resolution which has been passed by the Syndicate and is declared to be a by-law of the Syndicate at an annual meeting of the Syndicate or at a meeting convened for the first Saturday of November of any year." Regarding the amendment of by-laws the following is laid down:— "No by-law of the Syndicate shall be rescinded or amended except at meetings 1 or 5 mentioned in by-law 2 (that is, the meeting of the Syndicate on the first Saturday of November or on the Saturday immediately preceding the annual meeting of the Senate with an

adjournment . . . .). Provided that in cases judged by the Syndicate to be of urgency, any by-law can be rescinded or altered at any meeting of the Syndicate."

By-law 30 of the Syndicate, which lays down the distribution of marks at, and minima required for, the B.A. and B.Sc. examinations, runs as follows :—

30. "In the B.A. examination, the marks assigned to the various subjects and the pass marks in each shall be :—

Subject.	*Total marks.*	*Pass marks.*
English	150 ...	45
Philosophy	100 ...	30
Mathematics	100 ...	25
Additional Mathematics ...	100 ...	25
History	100 ...	25
Classical Language	100 ...	30
Physical Science	100 ...	30
Aggregate Pass-marks	" ...	115

In subjects in which a *vivâ voce* examinition is held (excepting English), 90 per cent. of the marks shall be assigned to paper work, and 10 per cent. to the *vivâ voce* examination."

* * *

30 (*a*). "In the B.Sc. examination, 50 marks shall be allotted for each paper and 100 marks for each subject in the Practical examination.

The minimum pass marks shall be 15 for each paper and 30 for each subject in the Practical examination with aggregate pass marks of 200 : 33 per cent. aggregate marks shall be the minimum for the Third Division ; 40 per cent. for the Second Division ; and 60 per cent. for the First Division."

At a meeting held on 5th December last the Syndicate resolved that "Principals of Colleges be informed, that in Mathematics, Physics and Chemistry, the marks for both B.Sc. and B.A. examinations must be as laid down in by-law 30 (*a*)."

It will be seen from what has been already said that the Syndicate was not empowered to amend a by-law at its meeting held on the 5th December, except in a case of urgency and the Syndicate has apparently not dealt with the matter, now under consideration, as urgent. The alteration in the conditions, under which candidates can pass in certain subjects for the B.A. examination,

has been effected by an "interpretation" of by-law 30. The Inspector-General of Education, Central Provinces, addressed the Registrar about this "interpretation," and received the following reply:—"It was resolved unanimously that, with reference to letter from the Inspector-General of Education, Central Provinces, it be pointed out to the Inspector-General that the Syndicate made no new rules. It had been asked to interpret an existing rule, and in its resolution, quoted by the Inspector-General, the Syndicate gave such interpretation."

The "interpretation" placed on by-law 30 has of course rendered success in Mathematics, Physics and Chemistry at the B.A. examination more difficult than it was before. There may possibly be but little ground for taking exception to the desire of the Syndicate to raise the standard required for a pass in the subjects mentioned, but the manner in which this has been brought about, its probable result on candidates at the recent B.A. examination and its ultimate effect on the "B" (*or* Scientific) course of the University have given rise to a certain amount of dissatisfaction.

It may, with some reason, be argued that the change in the matter of marks and minima was an "amendment" and not an "interpretation" of the by-law. The by-laws, bearing on the point, have been quoted in full and our readers can form their own opinions.

The change in the marks allotted to and in the minima required for, the subjects mentioned affected candidates, who appeared in these subjects three months after the "interpretation" was made public. Such candidates will probably, in case of failure, have a certain number of sympathisers on the ground that sufficient notice of the change in the conditions of examination had not been given.

The "interpretation" given by the Syndicate to by-law 30 will chiefly affect "B" (Scientific) course candidates. "Mathematics —the same as for the B.Sc." are prescribed for both "A" and "B" courses but Physics and Chemistry are absent from the former, while one of them must be taken up for the latter. It will be seen therefore that the difficulty of obtaining the B.A. degree has been increased to a greater extent for "B" course candidates than for "A" course ones. Little exception can be taken to making

the attainment of a degree in Arts more difficult than it now is, but under existing circumstances it appears undesirable to raise the standard of the "B" course without correspondingly raising the standard of the "A" course. The latter is much more favoured by candidates than the former, as may be seen by a reference to the article on Public Instruction in the North-West-Provinces and Oudh during 1895-96, which appears in another portion of this Journal, and it seems a pity that the Syndicate should do anything, which might tend to encourage the "A" course at the expense of the "B" course.

THE YOUNG IDEA.

A man once said that if he attempted to teach the young idea to shoot he would end by shooting the young idea. Allowing for exaggeration this is the feeling more or less of all those who are without the pedagogic circle and it is to be feared of many within. Perhaps if this man had turned his attention to the aforesaid gardening operation, he might have found many circumstances which would have prevented him from concluding his teaching experiments in so summary and bloodthirsty a manner.

Children's minds are so delightfully fresh and clear. Their ideas on all things are so different from ours, that even the most selfish of child-haters —if such a being exists on this earth—must yield to their charm after coming much into contact with them. The world is so new to them; everything surrounding them is productive of interest and the "trailing clouds of glory" surround them still. They are unwilling to take most things for granted like their elders. "Why should'nt there be a Union Jim as well as a Union Jack, father?" said Jim as he and his brother Jack were walking past the flagstaff. Why should'nt there be a Union Jim? Then again it was a puzzle to a little boy why a right-angle should not be called so because it had an angle on the right side.

In Sunday schools especially does the infant mind put out strange and unexpected shoots, which the trainer is apt to find surprising and bewildering at times. The children have not yet comprehended the fact that they must learn one thing for six days in the week, and its diametrical opposite on the seventh. The conflict between science and religion begins early in these times and we witness the first dawnings of scepticism in these little ones. Imagine the horror of the well-meaning but weak-minded young lady who was informed by her disciple that she (the disciple) did not believe that Jonah spent three days as an inside passenger in the whale. "How could he?" quoth this young student of physiology, triumphantly. "He would have been destroyed by the gastric juice." Perhaps that renowned parent who wrote to a schoolmistress, desiring her not to teach her daughter physiology, had

some ground for her complaint. "It don't do her no good and besides its rude." The girl might have been twin sister to Bret Harte's Inliss, who told her instructress in the edifying truths of Genesis, that it was quite impossible for Lot and his friends to know what had become of his wife as they fled from the cities about to be destroyed by fire. How could they possibly learn her briny fate unless they had turned round also, and then would not the same thing happen to them? What the answer to this was, is not recorded; but we all know the lady who has one answer prepared for all inquiries ready to nip the growth of the young idea in the bud, if it prove inconvenient—"Don't ask questions."—snappishy, in a highly dignified manner, or bored as the occasion demands.

The philosophy of blunders is studied with the greatest advantage in schools for boys. They rush in, with their careless indifference and happy blundering where girls, girded with self-consciousness and keenly alive to the ridicule and laughter of their companions, fear to tread. Yet in these days of Higher Education for Women, when we have abandoned the beaten track, and have left the days behind when history, geography and the use of the globes reigned supreme, and are urging the unwilling feet up the steep of knowledge, we do find them slipping sometimes.

A question set one year in the First-in-Arts examination required the candidates to explain what might be the meaning of "All Arabia breathes from yonder box." Pope is not included in the First-in-Arts text, and it is to be feared that the 'Rape of the Lock' is not familiar to many of the students; so one young lady was at least original, when she said that certain horses from Arabia were confined in a horsebox in a railway train and of course the odour would not be pleasant. Practical if not poetical. But what ideas one wonders would be conveyed to her by "Sibaean odours from Araby the blest."

In the Southern Presidency only a few years ago English literature used to be a favourite subject with lady teachers and their pupils, when the local Higher Examination—that misnomer—for Women, was in vogue. It was so easy you know. All that was necessary was to get Stopford Brooke's Primer of English Literature and learn a little every day. If the pupils did sometimes confuse the long strings of names, it was a pity but really it could not be helped. A bright pupil once told her examiner that "Jeremy Taylor was an eminent lawyer who lived in the reign of Queen Elizabeth. He was also a great dramatist, his principal play being 'Holy Living and Dying.'" Another girl was also suffering from a confusion of ideas, when she told her examiner that Wordsworth was called a "lake poet" because he wrote about the lake regions; and the marvellous boy who perished in his prime according to another was Edward VI.

Lord Byron is not generally regarded as a poet *virginibus puerisque* but he was classed with Dr. Watts, by one girl as a writer of poems for children because he was the author of 'Childe Harold.' Imagine the brilliant peer being placed in the same category as the worthy Dr. Watts! Thomas Moore

was an Irish poet who wrote Utopia, and "telling us how to be good." According to another he caused the rebellion of '98 by writing his 'Irish Melodies.'

The confusion of ideas in ancient mythology is sometimes amazing. The slips made amid the bewildering surroundings of the classical dictionary are hardly to be accounted for in many cases. In the following the association is easily traced. Apollo is a heathen god worshipped by the natives of Bombay; and the chief attribute of Diana that she was 'of the Ephesians', whatever that might mean. But how many answers come to be evolved out of the inner consciousness of some children is hard to understand, for example, "Columbus was a great Latin writer and was banished to America for writing a poem about the Emperor"; "The Furies were dreadful creatures who wore snakes twined in their hair. They flourished in the reign of Richard III." And again "Henry VIII. was a great king because he married six wives." This child of mormonistic tendencies also spoke of that much-married monarch as "the king who beheaded Oliver Cromwell for standing before him without removing his hat."

Women and presumably girls are supposed to be unable to shine in the Deductive sciences. Judging from the style of answer in Physics and Chemistry papers in Girls' schools they fail lamentably to distinguish themselves in the Inductive sciences as well. They take the same keen interest as boys do in explosions and occurrences of a kindred nature, and are as mischievously delighted at any particularly bad smells being produced; but beyond this their interest generally speaking does not pass. The pupil who wrote an essay on lead did not dwell on the commercial aspects of that metal, when she said: "Lead is a very useful metal because from its chief compound white-lead we get pearl powder,—a very useful face powder. We also get lead acetate which can be used if sugar is scarce. It is also used for pipes." To describe coal as the "carbonaceous vegetation of former ages" sounds very imposing but to explain this by saying that "coal is wood turned hard by being buried" is more simple than elegant. Another describes evaporation as "that which makes us cool when we fan ourselves." An original definition of energy is "ability to do something without trouble." Inertia means "not liking to move" and momentum the "speed travelled every moment."

How to make matches was a question put once to a class of boys. A youth with a wisdom and penetration beyond his years replied that the best way would be to give a moonlight picnic. As a rule however we do not find girls and boys trying hard to be funny in school hours. They recognise the fact that there is a time for work as well for amusement, and although they by no means improve the shining hours in what Carlyle tells us is the glorious reality of work, yet they do not encourage a companion in the search after the ludicrous, but rather condemn him. There are few things funnier to see, than the look of conscious virtue on a little girl's face, as she glances at a naughty companion and then at her teacher. Like her elders she finds it so pleasant to sit in condemnation on an erring sister or brother. It is so delightful to feel in every fibre "How good *I* am and how naughty he (or she)

is." Unfortunately the spread of the genus Prig is on the increase and chiefly so in Girls' schools. One may always tell her at a glance. Her hair is always so neatly brushed away behind her ears, and her books are so beautifully neat. She is seldom clever but she works very hard and manages to secure a respectable place in her class. She is usually the favourite of her teacher but is much disliked by her companions whose sympathies are wholly with the naughtly pupil who is the bane of her teacher's life, but the source of the keenest amusement to her school-fellows. Between these two the Prig and the Scapegrace, there is a standing feud and the former is usually reduced to spiteful tears after an encounter of wits.

It is usually the part of the elders to reprove the children and willing enough some of us are to do it; but when the tables are turned, when we learn our faults and deficiencies from these little people, we are hugely surprised and a little cross. It is not pleasant to suddenly realise we are not the perfect beings we flatter ourselves, we have been, in their eyes. "Don't tilt that chair," said the aunt: "you'll go head over heels." "Head over heels," repeated the child, thoughtfully; "head over heels." "Where is my head usually if it is not over my heels? Why don't you say heels over head?" A little girl was suffering from toothache and an unsympathetic bystander suggested she should fill her mouth with water and sit on the fire till it boiled. There would be no doubt of the pain going away then. "I dare say it would," she replied, "and I would go with it." One cannot help feeling personally aggrieved at a quick reply from a child. It is so delightfully convenient to practise our cheap, and frequently stale witticisms on them, and a reply is not included in our mental programme and annoys us accordingly. Again when our teachings are taught again to us the sensation is scarcely pleasant even though it may be amusing.

When children are possessed of a spirit of mischief their answers are wonderful to hear sometimes. They know so well what their teacher wants, and are quite determined that she shall not get what she wants. A schoolmistress was about to give a lesson on ships to her class. She enquired if any of those present had ever been to the docks: "Yes," shouted one boy, eagerly; "and what did you see there?"—with an encouraging smile. "My uncle," was the answer, with a merry twinkle in his eye. Another lady was about to hold forth on the various qualities of sugar. She asked what the children put in their tea? "I put a teaspoon," said one cherub, engagingly. A class was required to write an essay on 'Indolence.' Now generally when a number of boys and girls are required to write an essay on any particular virtue or vice they produce pages of highly moral sentiments. According to the opinions they express, all mankind is hopelessly degenerate, and all school boys and school girls particularly so. The only thing left in this sad state of affairs is to reform ourselves and then endeavour to influence our neighbours for good. But one boy who wrote on the above subject confined himself to the duties of his pastors and master and pointed out to his astonished examiner how very reprehensible it was for school-

masters and mistresses to waste their time as they do in school, and how little they do for the young ideas putting out shoots under their care.

Of course everyone has heard of the historical boy who translated "*Exegi Monumentum*" as "I have eaten a monument;" but a girl was just as intelligent who translated "They carried off the cattle" as "*pecudes portaverunt*;" and "O Troy thou art no more" as "*Troja non es magis.*" "*Dulce et decorum est, pro patria mori*" is a celebrated quotation and doubtless when a certain school boy translated it—"It is sweet and comely to *eat* for one's country" he was only expressing the general opinion of boy kind. "*Times Danaos et dona ferentes*" was rendered by another boy as "I fear the Danes and am bringing them gifts." He had no sense of the eternal fitness of things.

After all considering the number of new words and phrases the little ones are introduced to in a short time it is not surprising when we are told that "Alpha and Omega were two beasts of burden in South Africa," or tha "Euroclydon was an Ancient Greek who wrote a Geometry for Alexander the Great," or yet again when a monk is defined as a "gentleman nun," and a countess as "a female clerk."

Somebody has told us that we must be very clever to play the fool successfully and we generally find those children to whom nature has been most generous in her intellectual gifts are those who are guilty of the most amusing blunders. Their very quickness of intellect induces them to jump to too hasty conclusions, children of mediocre ability on the contrary pass their school days in respectable dulness, carefully avoiding all the pitfals which beset their paths. They have early realised the fact that if knowledge increaseth sorrow, the acquiring of that knowledge is a still more painful process and resign themselves to the inevitable. Considering that the average human mind does not take to learning kindly and the difficulties in teaching these little ones, in spite of the 'Little Lord Fauntleroys' and 'Misunderstoods' and other literature on the psychology of childhood, we are more or less groping in the dark, though Pestalozzi and Frœbel have lightened the gloom for us in a small degree.

MAGISTRA.

A CALCUTTA GRADUATE ON UNIVERSITY EDUCATION IN BENGAL.

I.

As days roll on the reflective mind is set a-thinking by the experiences of the multitude. Almost at every turn in the daily toil and moil of life one is forced to pause and put to one's self the question, "What has been the value of University Education to me?" The hard struggle of existence makes us almost ungrateful to the benign Mother, who, we presume, might

have launched us into the world better equipped, had she been a little more careful of our welfare. My experience of the working of all the Indian Universities is not wide enough to admit of my being the advocate for the entire youthful community all over the land; I shall, therefore, restrict my attention to my own province in saying a few words on behalf of the struggling myriads, who, having received the authoritative impress of the University, are yet rejected as spurious, and who find it difficult to keep body and soul together.

It would indeed be a perversion of the truth to represent the Calcutta University as a great unbroken desert overstrewn with the bleached bones of numberless victims; it would be purblindness not to recognize with feelings of relief the many green and refreshing oases which diversify the monotonous and dreary sands here and there. But I do not wish to speak here of the fortunate few who have means—intellectual and material—at their command to *complete* their University career; it is, in fact, the unfortunate myriads, intercepted in the way by one thousand and one adverse circumstances, who deserve special consideration at the hands of their reckless Mother. What, even for the passed undergraduates? One is perhaps tempted to place all these almost indiscriminately in the same category of the Great Unemployed, looking to the material prospects with which they are greeted as soon as they are at the world's threshold. With one voice the vast concourse shout out, in the agony of their heart, "What has been the value of University Education to us?" Like the issues of a reckless couple, hundreds and thousands of innocents are annually ushered into the world by the University, without adequate provision having been made for their support. It is all very pleasant to talk of "learning for its own sake" and things of that stuff when hunger's heat does not dry up the fountains of cheap sentimentalism, but the counsels of the amateur fall flat on minds oppressed with the thoughts of the belly. Never did the great Poet give expression to a truer human sentiment than when, in the person of Leonato, he addressed these memorable words to Antonio:—

> " . . . . Brother, men
> Can counsel and speak comfort to their grief
> Which they themselves not feel . . . . "

What is then the value of University Education to the majority of our students? I fear it is getting less and less every day. Not that I have in my mind the "commercial aspect," for so I may call it, of the question, when I say so, but that my humble belief is that, apart from the question of supply and demand, the miseries of our unfortunate students are due not a little to the quantity and quality of education received, though indirectly, from the University. Let us see how.

Times without number has it been proved to a demonstration that the *quantity* of education imparted to our youths is more than they can assimilate while that the *quality* falls, as a natural consequence, below the mark. This has, however, been generally done with a view to secure a healthy growth

of the youthful intellect. My object is not just the same at present. My humble view of the case is that the present system is calculated neither to make the nation intellectually great *nor even to allow it to live a happy and contented life in its own little way*. It is pre-eminently a negative and destructive force that operates on the majority of our students at the present time. Judge the present in the light of the past, and you will at once see the truth of the remark. It is indeed a lementable fact that the University is losing her hold on the estimation of the public almost all round. Just imagine how almost all doors to the public service, from top to bottom, are shut against men equipped with mere University certificates. Of course, I do not mean to say that a mere University certificate should be a passport to any and every department of service, but what I do maintain is that it is really intolerable that a University certificate should count for nothing even in such elementary subjects as the two R's. *Hincillæ lachrimæ!*

KALIPADA SARKAR, M. A.

TEACHERS AND THE UNIVERSITIES

THE venerable Universities of Oxford and Cambridge have both, within the past term, been mocting ideas and formulating schemes which a generation ago would certainly not have obtained serious notice. Nay, more; we can conceive men of the type of the late Professor Freeman positively denying that such ideas as those of which we are thinking had any remote claim on the attention of those who direct, or who think they direct, what can alone claim to be education.

The descent of the Universities into the rough and tumble of modern life; the attempt to meet the needs of the unlearned and yet painfully self-complacent masses; the idea that University learning and University organisation should be used to cloak weakness, and enable an odd jumble of folk to make a fair show in the flesh by attending popular courses of lectures during a summer vacation—all this would have been saved from being acutely painful to the older type of University don by reason of being entirely incomprehensible. Not the least of the changes of the Victorian Era has been that change which has forced on the old Universities the truth that if they want to maintain and extend their influence, they must take cognisance of, and make provision for, needs which are entirely modern, often angular and hard to fit in with picturesque and cherished survivals of the past, and which nearly always have arisen from a set of needs and circumstances of which University ears would, a generation or two ago, never have heard.

The professional training of teachers for secondary schools is one of the new ideas which, after knocking in a more or less hesitating and fitful way at the doors of the University of Oxford, has at last been admitted and ranged definitely among those movements which the University proposes to direct. At present the plan broached is not very definite, and there remains much room for gathering experience and proceeding slowly. One or two definite appointments have been made—that of Mr. Keatynge, so favourably known by his recent book on English Grammar Schools; and Miss Cooper, late Headmisstress of Edgbaston High School; but what duties are to be undertaken by them we do not know. In the very capable hands of Mr. Gerrans, Secretary to the Delegacy of Local Examinations at Oxford, no doubt practical steps will follow shortly; meantime, there is much to be said for freedom and elasticity in initial organisation, for no one can pretend that the ideal and satisfactory scheme of training for teachers has as yet been formulated. Oxford does, therefore, well to proceed with some caution, but, excellent as caution is in a venerable University, there are some points in which one would have thought decision might have superseded "stumbling guess." One would have thought that the errors of anything and everything approaching to the pupil-teacher system are so patent that no new scheme would for a moment admit them. And yet one of the ways in which governing bodies of schools are asked to help is by giving board and lodging to candidates while training or by authorising some small payment in return for services rendered by them.

In either case the University takes, or asks others to take, the very step which it was essential to avoid. Candidates while learning their trade are to receive payment for their services. If they receive payment, we may be quite sure keepers of schools who provide the funds will not be able or willing to do so as a free gift; the money paid will, in nine cases out of ten, be saved from the salary of a fully-equipped teacher, and in the natural course the pupils will suffer; for of all things requiring constant, skilled supervision and attention, the work of a young teacher stands first. Supervision is always costly; we all know that: but it is a general truth that all soundly organised work is so conducted that skilled supervision is provided for and found to be amply worth the sum it costs. We have never recognised this in Secondary Education where headmasters and headmistresses are encouraged to teach far too much; the result is that our school-plans lack coherence, and that the Heads do not really supervise enough to be able to detect and remedy weak points.

The University now proposes to increase the expenses of the school in which a Probationer is to learn his work, and does so on the supposi-

tion, apparently, that the services of the probationer have an exact value; he is either to be paid or to be taken "on mutual terms." From the outset, therefore, as will be seen, the probationer will start under a false impression, firstly as to his responsibility towards his pupils, and secondly, as to the value of his services. As to the first, it is obviously bad policy to overweigh a beginner and to deprive him of freedom to develop as he feels power growing. Those who have watched and noted these matters as they show themselves in practical, every-day schoolroom life know that in many cases power and confidence in teaching are only developed late on in the course and after many trials; that it is not at all unusual to find a young teacher who begins by intending only "to teach her own subject," find it not only a relief, but a positive help, to teach several other subjects, the educational and disciplinary use of which only actual practice could reveal. If from the outset the teacher in training is to feel that he is responsible for the teaching of his subject and that his work is to take the place of definite experienced teaching, a burden will be put on him which, though he may assume it cheerfully and even with alarcity, is not one suited to his experience.

As to the second point, in such a scheme as that sketched by Oxford the teacher in training will, we think, be led to set a wrong value on his work, and to begin, as it were, from the wrong end. We want all young teachers to feel to the full the responsibility of their work; to give it their best energies, their freshest vigour; to look at it from many points of view, but never from one which suggests to them that it is worth a definite salary. On the contrary, what should be aimed at is the idea that, to learn what can be taught of the difficult art of teaching, embryo teachers should be content to pay money and to give time. Every other profession, from millinery upwards, has this rule we believe. So far, teaching and domestic service stand unorganised and on an equality which permits every ignoramus to enter and live by them as a skilled hand.

It is not possible, as yet, to give any opinion as to the written test to be imposed on candidates for the "Diploma in Education." Examinations will be held in the Trinity and Michaelmas terms, but it is not supposed that at first the number of candidates will be great; few or many, however, let us hope the scheme will be the very best possible and that it will command confidence from the outset. Whether the practical training is to go hand in hand with that in Theory, History, and practice of Education is not, as yet, clear and a series of questions, addressedby the Delegates to various heads of schools, seems to show that so far the questions to be settled are many and fundamental.

The idea that under present systems of training undue attention is given to the preparation of teachers for very young children is, we fancy, paramount in many minds. There seems to be an idea that the superior culture of the University woman is wasted, unless she is put in charge of upper forms and engaged in teaching more or less exclusively her own subject. There is obviously much to be said for this view; but the decision will finally be arrived at by deciding whether, after all, a teacher is to adopt the outlook and standpoint of the educator or of the informationist. Far be it from us to suggest that every teacher should teach every subject; there is even yet far too much of this going on even in schools, &c., which should be above it; but we do wish the year of training to give a wide test and a good field. For in addition to the effect already noted, which might be expected to accrue to the teacher from a wide range, we must always remember that all teachers look forward to attaining a headship at some moment or other in their career, and that then it will be their duty to make time-tables, help young assistants, and generally to apportion work with some object besides that of merely "getting through" the list of subjects set out as to be taught in the school.

There seems, indeed, throughout the questions which the Delegacy has issued, a presumption that the woman who has received a University education differs fundamentally from others. The presumption is not, we believe, borne out by facts or experience, and we should greatly regret to see it accepted and made into a new class distinction. What to all time will differentiate one teacher from another is more than mere knowledge. Knowledge is, of course, one element, and a very important one, in a teacher's outfit; but until we have much more striking and definite evidence than is yet forthcoming as to the unquestionable superiority of the teacher who has been trained at a University over the teacher who has won her post by other and no less arduous work, we hope that nothing will be done to divide them off into two distinct classes, with differing aims and methods of working.

While the University of Oxford has been organising training, that of Cambridge has been again investigating the *pros* and *cons* of Degrees for women. The Degrees for Women Syndicate have issued their report, and a very interesting and significant document it is to those who have for the past twenty years been watching and waiting for the formation of sound public opinion on this matter. The report makes it clear that the Degrees are not asked for on any merely sentimental ground. The Degree is asked for as a recognition of work done within prescribed conditions and tested successfully by the highest experts. This will rejoice

the hearts of all those (and they are many) who take women's work as an important and serious factor in the big general life of the world. For the report is strongly in favour of granting by diploma the title of B.A. to students who attain the standard of a Tripos Examination.

The report contemplates also that women should proceed to the title of M.A., and should be encouraged by the University to make contributions to knowledge by the prospective titles of Sc.D. and Litt.D. But while thus recognising the disadvantages under which women have laboured and do labour, who are denied official title though they have done qualifying work, the Syndicate go no further. They do not recommend that qualified women should be admitted to membership of the University, nor do they wish that any steps be taken to confer on women titles of Degrees in Divinity or Medicine. Some interesting letters and documents are printed with the Report, and show how painstaking has been the attempt to arrive at a just estimate of the question involved, in so far as this touches on the drawbacks felt by women under the present scheme.

The opposition, however, is likely to be keen; the non-resident M.A.'s will have many bugbears put before them, and no doubt, of these the most alarming will be that of a mixed University, to which it will be urged these diplomas are the first conscious steps. It is always futile to prophesy in the absence of exact knowledge; but as things are going now we do not see much likelihood of mixed Universities. At present the women who go to the University do so for the serious business of taking a better place among wage-earners; they do not really care for more, or rather, they are content to secure the solid advantages of a University training and equipment; nor does it appear that they mean to ask for more than the University stamp on their work. The request is in itself, we agree, so modest as to raise suspicion; but we think the suspicion is baseless and should not avail against the removal of what is felt and shown to be an injustice.

Another argument which will be used against the granting to women of any title which men already hold, is that which is based on the dissimilarity of the course taken by women and men. The passing or not passing of the "Little Go," the substitution of another (and often much severer) test as a preliminary to the Tripos course is held by some to be a fatal flaw in the women's case. When it is proposed to meet this by teaching Greek to all girls as to all boys in our secondary schools, the outcry becomes louder. Boys' education, it is urged, is already so atrociously planned, so unlikely to develop and foster a love of learning, that to compel girls to follow the same course would

be fatal. We think that if the "Little Go" be held essential it will be taken by the small proportion of women who go to the Universities; but there is strong evidence against believing that passing the "Little Go" makes or unmakes the student.

There remain those friends of women's education who hold that half a loaf, far from being better, is much worse than no bread, and that anything short of equality with men is really an obstacle to true progress. We have the greatest respect for much that is implied in this attitude, but we do not assume it ourselves; for this world, after all, is a place where justice in its divine entirety is only a vision flashed on the inward eye at very rare, albeit very inspiring, moments. We have, for the most part, in real life to be content with removing the most obvious limitations and trammels and this Degree question is a case in point. Women may still be trusted in the future, as in the past, to use modestly and faithfully the chances given them of self-improvement; but when they tender strong evidence that the conditions under which they work constitute a real grievance, we think they ought to be met with fairness, and that the removal of actual grievance ought to be speedy and effective.

One more interesting recommendation is made by the Syndicate which we should be very glad to see turned into actual fact. It is "that titles of Degrees might properly be conferred *honoris causa* in exceptional cases upon women who are of conspicuous merit or have done good service in promoting the education of women, or in other ways, but have not fulfilled the usual condition as regards residence and examinations." Nothing, surely, could better mark the sixtieth year of Queen Victoria's reign than a step such as this. The Queen herself is a remarkable woman and her reign has been signalised by the most marked advance of women all along the line—an advance not merely, and not chiefly, in self-assertiveness, but in power of intelligent work and in willingness to undergo severe and often irksome preparation for it. We hope the Syndicate may carry their report, which, while cautious and conservative in the main, is yet a document based on careful and representative evidence and calculated in our opinion to advance women's true interests as workers.—*The Educational Review* (*London*).

DEPARTMENT OF EDUCATION.

WRITTEN EXAMINATION FOR TEACERS' CERTIFICATES.

April, 1897.

SECOND-GRADE COLLEGIATE.

ORGANISATION.

1. Name the characteristic features of the *monitorial* system of organisation, and state briefly what you consider to be its defects.

2. Name the points with reference to site, plan and accommodation which must be borne in mind when the erection of a building for a Lower Secondary School is under contemplation.

3. What fittings and furniture are necessary in a well-appointed Upper Secondary school?

4. Mention briefly the disadvantages which result from a separate classification of pupils for each subject in the curriculum.

5. What are the advantages of a well-considered and carefully-arranged time-table?

6. Name the registers which must be kept by a recognised Upper Secondary School, and state what sort of entries should be made in the log-book.

7. Write out a leaving certificate in proper form.

8. Write a letter in official form from the Headmaster to the Manager of a school, touching upon the following points;—

   (*a*) Third form master suddenly taken ill.

   (*b*) The Lower Secondary examination close at hand.

   (*c*) The work of the form suffering.

   (*d*) Arrangements suggested.

   (*e*) Asking for very early orders.

DISCIPLINE AND MORAL TRAINING.

1. State the considerations which should guide a teacher in emloying *censure* as a means of discipline.

2. Parents in India not unfrequently wish their children to be promoted to classes for which they are unfit. Show that to comply with such requests weakens the discipline of a school.

3. How should a teacher deal with—

   (1) a pupil who is of an obstinate temper?

   (2) one who is habitually indolent?

4. Discuss the advantages and disadvantages of the giving of prizes in schools.

5. Habit is second nature. Point out the importance of this fact in its bearing upon the moral training of the young.

TEACHING.

1. What are the most approved methods of teaching—
   (*a*) Handwriting?
   (*b*) Spelling?

2. How would you teach English Composition to a Third form?

3. In Geography "the main thing is to establish centres of interest." Explain and illustrate this by notes for a lesson of forty minutes on the Mediterranean for a Fourth form.

4. Show how you would teach Simple Proportion to a class just beginning the subject.

5. Write full notes for a lesson on the following :—

> "The bird that soars on highest wing
> Builds on the ground her lowly nest;
> And she that doth most sweetly sing
> Sings in the shade when all things rest.
> In lark and nightingale we see
> What honour hath humility."

6. Draw up a list of such English words as are, in your opinion, most frequently mispronounced by native students, and write down the instruction you would give to a class as to their correct pronunciation.

UPPER SECONDARY.

ORGANISATION.

1. Describe a good building for a Lower Secondary school with a Primary department attached, the biggest class not to have more than 30 pupils.

2. Make a rough ground plan of such a school-building with any outside accessories that are needful.

3. What furniture would you supply to such a school; how many teachers, and with what qualifications, general and professional?

4. Suppose you were inspecting a school of the Primary grade, what registers and other documents would you call for (1) in the case of Board schools, (2) in the case of Results schools?

5. A Lower Secondary school has a good building and a properly constituted staff. State what further conditions must be satisfied for recognition.

6. Write a letter as a headmaster of a Lower Secondary school to your immediate superior complaining of the unfitness of one of the

teachers both in his attainments as a teacher and by character for the post he holds under you.

7. Make a time-table for the First form of a Lower Secondary school.

DISCIPLINE AND MORAL TRAINING.

1. Discuss fully the respective merits of moral influence and physical force in the maintenance of discipline.

2. How is the discipline of a school affected by good accommodation and surroundings?

3. (a) Name any three of the natural instincts of children to which rewards appeal.

(b) For what actions should you think it advisable to bestow praise, and why?

(c) Mention any evil effects likely to arise from a too frequent and injudicious bestowal of praise.

4. (a) What do you understand by "good manners"?

(b) Mention a few of the chief means by which good manners may be cultivated in a school.

5. (a) What are the chief evil effects of a want of self-control in a teacher?

(b) How would you endeavour to lead your pupils to cultivate the art of self-control?

TEACHING.

1. What points must be held in view in teaching Handwriting by means of copies?

2. What is the use of exercise books? Describe the exercise books you would require to be kept in a Third form, a First form and a Fourth class.

3. What are the objects of questioning in teaching? Give some principles for the formation of good questions. What faults or defects should be guarded against?

4. What is understood by an Object lesson?

5. Write full notes of a lesson on any one of the following subjects:—

(a) First lesson on Decimal Fractions.

(b) The physical geography of India.

(c) Glass.

(d) The horse.

6. Show, at length, how you would make a lesson on History interesting, illustrating your answer by an example.

Lower Secondary.

ORGANISATION AND DISCIPLINE.

1. An Upper Primary school has classes from the 4th down to the 1st, and has two teachers. Sketch the plan of a school-house which is best suited for it in your opinion, showing how you would locate the classes. Give your reasons for adapting your plan.

2. What general education and technical qualifications should the Headmaster of an Upper Primary school possess? What should be the qualifications of the assistant teacher or teachers?

3. Draw up a time-table for the 3rd Standard, showing the work of the class from hour to hour, with a summary showing the time devoted to each subject per week.

4. (*a*) Supposing you had a gong, what use would you make of it with a view to secure the punctual attendance of pupils?

(*b*) A school begins work at 7 A.M. When would you mark in the attendance register, 1st those who are present at 7, 2ndly, those who come late, and, 3rdly those who are absent in the morning?

5. How can you find the average daily attendence in a school for a week? Illustrate your answer by taking a small school of 15 children and marking attendance for it.

6. What furniture and apparatus would you expect to find in a model Upper Primary school?

TEACHING.

1. (*a*) What points should you bear in mind in preparing any lesson for a class? (*b*) How would you make your pupils prepare their daily lessons?

2. Into how many kinds are questions generally divided. What is the use of each kind?

3. State fully the advantages and disadvantages of oral teaching? What qualifications should a teacher possess in order to be able to give an oral lesson successfully.

4. "Begin geography with simple physical facts." Explain this and state what physical facts can be taught to a class of beginners and how?

5. What are the chief objects to be aimed at in teaching a language lesson? State in detail how each of them is to be secured.

6. What kind of illustration is most suitable to the lowest class and why?

7. How would you teach division when the divisor is above 16 but can be broken up into factors? Illustrate your method by dividing 2349 by 144.

8. Draw up notes of a lesson on Transitive and Intransitive verbs.

REVIEWS OF EDUCATIONAL PERIODICALS.

The April number of the *Educational Review* (London) is as usual very well got-up. It opens with a short biography of Miss Bishop, first Lady Principal of the Royal Holloway College. It may be mentioned incidentally that this well-known educational institution for girls owes its establishment to the munificent gift of Mr. Thomas Holloway, who accumulated a large fortune by the sale of his celebrated pills. The college, which is situated at Egham, was formally opened by the Queen on 30th June 1886. In March 1887 Miss Bishop was appointed its first Principal and it was chiefly owing to her tact and powers of organisation that the institution now takes its place in the foremost rank of female colleges. Miss Bishop, though at the head of an institution which prepares students for the London University Examinations in Arts and Science and for Pass and Honour Examinations of the University of Oxford, is opposed to the grant of a degree at Oxford to women. We quote her words :—

"In my opinion, the opening of the Oxford B.A. degree to women at the present time is likely to have an injurious effect on women's education :—

(1.) "Because it would put a premium on *Pass* work, and thus lower the present standard of work of women students. For if a degree is obtainable, employers will require it, and young women will, for the most part, want to reach it by the shortest road.

(2.) "Because it would oblige girls' schools to make Latin and Greek principal subjects in their curriculum to the exclusion of modern languages and English.

(3.) "Because it would deprive 'Oxford' women students of their present freedom as regards courses of study, limitations of time and places of residence, and would tend to stereotype the process of women's education in exactly the same lines as that of men.

"My eight years' experience here has convinced me that girls' work cannot wisely be pressed within the limits of time which have been found good for young men. And while the whole movement for women's university education is so young, and its results so untried, it must, I venture to think, be an open question whether the highest good for women is an education identical in all its conditions with that of men. The question at Cambridge is on quite a different footing. There the women have from the first been subject to the same regulations—or nearly the same—as the men, so that a titular degree seems the legitimate outcome of the work they have done, and involves no new departure."

The second article, which is entitled "Teachers and the Universities," is extracted in another portion of this Journal. The Rev. Mr. Bevan contributes a second letter on "Wanted—a Guild of Efficient Private Schools." The reviews on "Dr. Sweet's Anglo-Saxon Dictionary" and on "A Hand-book of Greek Sculpture by Ernest A. Gardner" are very full. Several of the excellent illustrations which adorn Mr. Gardner's work are reproduced. "The Education of Girls and Women," which is a review of Miss Bremner's excellent work is included in the contents. On the whole, the April number fully sustains the reputation of the Journal.

* * *

The (London) *Journal of Education*, dated 1st April, contains as usual a large amount of readable matter. Professor Lodge contributes an article "The Teaching of Geometry" but he deals with the subject from a different standpoint from the one adopted by the writer of the article on the same subject, which appears in the current number of the *Indian Journal of Education*. If would no doubt interest our readers were we to extract the London journal's article, but the pressure on our space prevents us from doing so. Mr. Kirkman concludes his article on "An Experiment in Modern Language Teaching." An interesting article on "Arnoldides Chiffers or, The Attitude of the Schoolmaster" is contributed by "E. E. B." It discusses the pedagogue who attempts to follow in the footsteps of the great Arnold and is not as successful in his efforts as he might have been, had his abilities been as great as his intentions were good. "Young England" gives the experiences of an amateur examiner of the village school. An appreciative article appears on the late Miss Shirreff, President of the Froebel Society.

* * *

We are in receipt of the weekly numbers of the *Journal of Education* (Boston and Chicago) up to the 1st April. The number of that date contains an interesting article on "Birds on Literature—an aid

in Natural Study" by Harriet H. Pease. "Fruit" is the subject of Mr. Winship's article on "Commercial and Industrial Geography." The number is a distinctly birdy one, for in addition to the article mentioned, there are four others on the same subject—"Bird Day Exercise," "Swallows," "How to go a-birding," and "The Parts of a Bird." We suppose the advent of spring in America is responsible for this.

EDUCATIONAL NOTES.

The manuscript copy of the life of the late Lord Tennyson written by his son will be published by Messrs. Macmillan and Co, in October next.

* * *

A largely attended meeting was held at the Imperial Institute when Professor J. C. Bose delivered his lecture, illustrated by numerous experiments on electric waves. Lord Reay presided and among those present were Sir Henry Roscoe, Lady George Hamilton, Sir J. B. Lyall and Lady Lyall, Lady Reay, Sir Steuart and Lady Bayley, Professor Ayrton, and Sir Philip Hutchins. Lord George Hamilton was unavoidably absent owing to an engagement in the House of Commons.

After the lecture, both Sir Henry Roscoe and Lord Reay addressed the audience, eulogising Prof Bose.

* * *

The *Pioneer* in its series of "Indians of to-day" has the following account of Professor Bose:—

Professor Jagadish Chandra Bose, who is at present on a visit to England and the Continent, is the first example of a native of India winning a reputation for original investigations in physical science. Natives of India since Western education was introduced among them in the time of Lord William Bentinck have won considerable eminence in some departments of intellectual proficiency, but for any one of them to prosecute on his own account the paths of experimental science and to increase by his investigations the sum-total of human knowledge, is a new event altogether. There have been brilliant orators like Ramgopal Ghose and Keshubchandra Sen, eminent Judges like Dwarka Nath Mitter and Kashinath Trimback Telang, celebarated journalists like Hurrish Chandra Mookerji and Kristodas Paul, distinguished scholars and antiquarians like Dr. Bhan Daji and Raja Rajendra Lala Mitter, lawyers like Mr. Mandalik and Mr. Manomohun Ghose, but few, if any,

of the educated Indians have yet turned their attention to that branch of human knowledge which is the corner-stone of modern civilisation, and which is revolutionising the conditions of human existence in every part of the habitable globe. Professor Bose's researches in the regions of electricity have been welcomed with enthusiastic applause by the learned scientific bodies of the United Kingdom, and serve to show that the Indian intellect is capable of the highest flights in the domains of science and of entering into an honoured comradeship with the highest minds of Europe. Professor Bose is yet in the prime of life, with many years of active usefulness yet before him, and it is to be hoped that time will bring him fresh triumphs and a still broader reputation. The Government of Bengal has deputed him to study at first hand the workings of the great scientific laboratories of England, Scotland and the Continent, with a view to introduce new and improved methods in the Presidency College at Calcutta. During his absence on this mission he has been welcomed by the great scientists of England and has had the honour of lecturing before the Royal Society. The career of such a man will be followed with widespread interest.

Professor Jagadish Chandra Bose received his early education under the *ægis* of the University of Calcutta. After passing the Entrance Examination he read at the Xavier's College, and there, at the feet of that well-known professor, Father Lafont, S.J., C.I.E., he received his first lessons in science. Father Lafont has given the benefit of his extensive knowledge, his rare talents and his steady hand in all intricate and delicate experiments to the Indian youth for the last quarter of a century, and he has such an innate love of the subject that he teaches with so much success that he comunicates a part of his enthusiasm to those who hear him either at the class-room or the laboratory. Mr. Bose was not a distinguished student in his early days and gave but little promise of his future eminence. He passed his B. A. in the Second division, and soon after left for England. He entered the University of Cambridge and there he read under the very best professors, men who are now in the front rank of the scientific world. After having taken the B. Sc. degree of the University of London he returned to his native country in 1884. He came back with the highest testimonials from eminent professors and on the strength of this recommendation he was taken on to the higher ranks of the Bengal Educational Service and wa[illegible]
as Junior Professor of Physical Science in the Calcutta [illegible]
College. There he considerably improved his know[illegible]
city for performing difficult experiments grew [illegible]
Government of Bengal has during recent years m[illegible]

to improve the system of scientific training in the Presidency College, and under the advice and with the assistance of the capable professors of that institution it has incurred a considerable outlay in placing the laboratory on a sound footing. Professor Bose was thus enabled to have at his command the means and the apparatus and opportunities necessary to pursue his favourite studies, and he could be seen busying himself with books and experiments in the Science Theatre long after the College lectures were over, and on holidays when hardly a human face could be seen in that extensive building. His activities frequently found a vent in giving popular scientific lectures, illustrated with experiments to the Calcutta public, but he hardly found any audience beyond the body of the actual students who had to get up that subject for their University examination. It was early last year that he published his researches on the properties of electric waves, and this dissertation with the instrument which he has invented in that connection has raised him at one step to the high estimation he now enjoys in the eyes of the scientific world.

Professor Jagadish Chandra Bose belongs to the numerically small but influential community known as the Brahmos, and he has given his adherence to the Sadharan Samaj, of which spiritual community his brother-in-law, the Hon'ble Anunda Mohun Bose, has long been the leading member. The Sadharan Brahmo Samaj is hardly a popular body in Bengal. Its austere morality, its sublime dogmas and the practical lessons of unselfishness and of resignation to the will of one Supreme Being that it enforces, are too much for the unthinking many, who prefer to drift as their passions and impulses lead them. But no one will deny that amidst some things which are not above criticism the more prominent members lead such a pure life, practise such a rigid morality, and open their hearts so freely to the highest spiritual impulses that they are an honour to their country and nation.

Professor Jagadish Chandra Bose is a short rather thick set man with a handsome and powerful face. He is married to a talented and cultured lady, who is the second daughter of Babu Durga Mohun Dass, a well-known pleader of the Calcutta High Court. He lives in the Entally quarter of the town, in a house which is very tastefully kept. He is a very modest and unassuming man in private life, and although he has …d in England for several years he has not assumed the English style … He takes a deep interest in the important educational move… started in Bengal by the members of the Sadharan … which the City College, with its branch schools, is … festation, and he is a member of the governing

body of that first-grade College. He has not like some of his England-returned countrymen the affectation of seeming to forget his mother tongue, but he delights in speaking always in the Bengali language, except when on official duty, though he speaks that language with a strong, provincial accent. He has been for some years a nominated member of the Senate of the Calcutta University. He has been awarded the M.A. degree of the University of Cambridge and the D.Sc. degree of the University of London. He is a favourite with his pupils and he tries to instil into them a love of the subject to which he has devoted his life and his energies. Let us hope that some among the students who are fortunate enough to enjoy the teaching of such a master may profit by their opportunities and striking out ideas of their own may do something in their turn for the cause of knowledge.

* * *

A young Russian woman who is at present a teacher in one of the American schools gives the following account of Russian schools, chiefly based on her experience in one of them.

"The children in Russia are so glad to go to school that they will walk miles to the school-house. We have good schools there, but not many of them. There is only one perhaps for several villages in the country, and the children from all around go to it. It took me an hour to reach my school. It was the only one in the part of the city where I lived.

"The Russian children do not begin to go to school until they are eight years old, and then they are so glad to go that they study very hard. The hours are from 9 to 4 o'clock in school, but then there are the lessons to be learned outside, and I remember that I studied until 12 o'clock at night to learn mine. I think the children in Russia learn very quickly. They do not go to school as early as they do in America and their minds seem to be fresher. I commenced school when I was eight, and when I was sixteen I was ready to teach, and I had been to the ordinary public school, to the high school, and the school for teachers. The professors brought in children from the lower schools and showed us how to teach them, and then we taught them ourselves.

"The boys' and girls' schools are separated in Russia. The men teach the larger boys and women teach the girls and smaller boys. I taught in a girls' school in one of the lower classes. The building was large, with many different rooms, and heated, not from the cellar, but from great ovens built into the walls, one of them between, and heating two rooms.

"I had thirty little children at first, and then I taught older chil-

dren, and there were not so many. I never punished them. They were very good. I think children are always good if you are good to them.

"It is not so difficult to find a position to teach in a school in Russia. Some people are so sorry for the peasants in the villages that they go to them and start schools. They are paid no money, but live on the provisions of all kinds that the peasants can bring them. Some one gives them a room in or near the church, and there they have their school. Sometimes the government allows them a little money. I wanted to teach the peasants. I would have taken my family with me, and they would have liked it. It would be doing a great deal of good, and it is not happiness to live unless you can do something for some one. In localities where I had no friends I would make friends of the children. The children take you for an angel if you are good to them."

* * *

The law of compulsory education of children who are above 5 years of age is so rigidly enforced in England that in the city of London alone 45,000 parents were prosecuted last year for not sending their children to school.

* * *

It is under the consideration of the Board of Education to establish a Teachers' Training College for Chicago.

* * *

A brief description appears in *Nature* of Pauling's new and novel method of drawing relief maps, which is pronounced a great advance on any system now in use, both in respect of accuracy and ease of execution. The map is said to be, in effect, a closely contoured map, printed on silver gray paper, the contour lines being white where illuminated by a source of light, supposed to be 45 degrees above the western horizon, and black elsewhere. Level plateaus and slightly sloping areas are thus represented by the natural, gray color of the paper, steep declivities towards the west being lightened by the closely-drawn white lines, and towards the east, correspondingly darkened by the black lines, the departure from the normal gray showing more the closer the lines, that is, the steeper the slope. Thus, the Pauling method has the merit of giving a clear idea of steepness, derived from the contour lines themselves, and the additional advantage is presented of avoiding the confusion, produced by the shadows in some modern maps, where the illumination is supposed to come from the horizon.

* * *

The schoolmaster's position has the element of permanence in it in America. According to the American School Law if a teacher under

the service of the school board is dismissed before the expiration of his term of appointment without being shown that he is incompetent for the post, the Board is liable for damages sustained by the teacher on account of such dismissal.

* * *

In the opinion of an educationist who is also a well-known medical practioner, school houses should be so ventilated that at least 20 cubic feet of air shall pass from the building every minute and that the same quantity of fresh air be admitted for every person that the school house is intended to accommodate.

* * *

By a statute made by Oriel College, Oxford, on May 18th 1896, and now lying on the table of both Houses of Parliament, a clause is proposed to be inserted in the College Statutes providing that no selected candidates for the Indian Civil Service shall be eligible for a scholarship or Adam de Brome exhibition, and any scholar or Adam de Brome exhibitioner who shall become a selected candidate shall thereby vacate his scholarship or exhibition, unless the Provost and Fellows shall otherwise determine.

* * *

Mr. R. M. Ray from Bellary gives the following interesting anecdote which he heard during the time he visited Oxford, of the late Professor Jowett, Master of Balliol College. During one of his holiday tours on the Continent, the Master asked one of his friends to come and occupy his residence in his absence. On his return home, he found his friend ill and his sister in charge of the house. So the Master kindly made some other arrangements for himself, and left his friend's sister in charge of the house till her brother was well enough to be moved to some other place. This lady, it appears, was at the time engaged to be married, and one day when the Master called as usual to see how his friend was getting on, put him the following question: "Well, Doctor, will you marry me?" To which Dr. Jowett, after a while, is said to have replied, "Don't you think we had better remain as we are?" Tableau!

* * *

For the first time in Austria, the Degree of Doctor of Medicine was conferred in Vienna upon a woman, in the person of the Baroness Possaner von Ehrenthal, an unmarried lady, aged thirtyseven. She matriculated in Vienna, and studied later in Zurich, where she obtained the M.D., but she had to pass another examination in order to have that Degree confirmed in her native country. The Rector of the University, when congratulating the new Doctor, said that when women occu-

pying thrones can, by their wisdom, obtain immortal fame in history, the time had certainly arrived for considering that sex eligible for University Degrees.

INDIAN NEWS.

BENGAL.

The Hon'ble Mr. Justice Trevelyan, in presiding at the recent prize distribution at the Oriental Seminary, Calcutta, dwelt upon the value of school discipline and remarked that the battle of discipline when properly directed was half won. If boys did not obey, they would never be able to govern themselves in their after-career. In western countries, school discipline was strictly enforced, so as to ensure the advancement of pupils and the formation of character.

* * *

Mr. W Booth, B.A, Principal, Hooghly College, has been appointed to act as Director of Public Instruction, Assam, *vice* Mr. J. Willson, M. A., who has proceeded on six months furlough.

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By the death of Sir Walter Eugene de Souza, a large bequest will come to Doveton College, Calcutta. At present, the exact amount of the bequest is not known, but it is likely to be about fifteen lakhs of rupees. Of this money Sir Walter merely enjoyed a life interest. The testator is Mr. Lawrence de Souza, eldest brother of Sir Walter, who died about twenty-five years ago. The amount will probably be lodged with the Official Trustees, the interest being paid to the College for the maintenance and education of a certain number of boys who will be on the de Souza Foundation.

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The report of the Church of Scotland Mission, Calcutta, for the past year is a thoroughly satisfactory one. In the College and School there are over 1,100 students and pupils. The income from College fees was Rs. 22,621 against Rs. 19,676 in 1895, a handsome increase of nearly Rs. 3,000. The school fees amounted to Rs. 6,329 against Rs. 4,943. The number of students enrolled in the College department was 621, the highest on record. The Christian Hostel has been under the supervision of Professor Lamb, although in its infancy, it has demonstrated the need and usefulness of such an institution. It is proposed to erect a suitable building for the Hostel.

In order to bring up the Provincial Medical establishment to its full strength, the Government of Bengal has sanctioned the recruitment of eleven Assistant Surgeons from the passed students of the Calcutta Medical College.

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Balen Hari Charan Ray, Principal of the Midnapur College, is appointed Principal of the Chittagong College, *vice* Balen Abinash Chandra Chatterjea, who has been appointed Assistant Inspector of Schools, Patna Division.

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Mr. J. A. Reuther, Assistant Inspector of Schools, Patna Division, is appointed Inspector of Schools, Burdwan Division.

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We are glad to note that Mr. J. H. Gilliland, has been elected Registrar of the Calcutta University for a period of two years. During his officiating tenure of the Registrarship he rendered excellent service, and the Vice-Chancellor fittingly referred to this in recommending his appointment to the Senate.

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The total number of candidates who appeared for the various University examinations held in 1896-97 was 10,726 as against 11,274 in the previous year.

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The Presidents of the various Faculties of the Calcutta University, as at present constituted, are :—Arts, Dr. C. A. Martin ; Law, the Hon. Mr. Justice Sale ; Medicine, Surgeon-Lieutenant-Colonel E. Bomford ; Engineering, Mr. D. B. Horn, F.C.H.

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At the last annual meeting of the Senate, it was decided to present an appropriate address to Her Majesty on the occasion of her Diamond Jubilee. Some little discussion took place as to whether the casket should be of silver or of gold, and it was finally agreed that silver would be preferable, as it was the currency of the country.

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A familiar figure of the Bengal Educational Department has disappeared with the retirement of Mr. A Ewbank, Principal of the Patna College. He entered the service in 1868, and went direct to Bankipore and was made the Principal of Patna College in 1879. He passed the whole of his long service at Bankipore, with the exception of about two years, when he was Principal of the Dacca College. Mr. Ewbank was a contributor to technical journals and was very popular in local society. He embarked for Europe from Bombay per S S.

Britannia on the 1st May, and has been succeeded as Principal of the Patna College by Mr. A. C. Edwards, M. A. of the Bengal Educational Service.

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Colonel Chatterton, before his retirement, distributed the prizes to the Armenian College Cadet Company at the Volunteer Head-Quarters. It was only for the last two years that the students of the Armenian College have taken to volunteering, and have distinguished themselves in their Corps, having won the Toker Challenge cup and the silver bugle presented for competition by Lieut-Colonel Meade, Commandant of the 2nd Battalion, Calcutta Volunteer Rifles.

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The Hon. Mr. Justice L. H. Jenkins is appointed to be a member of the Committee of Management of the Bethune College, Calcutta.

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Brig. Surg. Lieut Col. D.D. Cunningham, M.B., F.R.S., C.I.E., Professor of Physiology, Medical College, Calcutta, is granted furlough on medical certificate out of India, for one year from the 29th March.

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A set of photographic and collotype apparatus, costing Rs. 30,000, has been handed over to the Calcutta School of Arts, by the present Maharajah of Tipperah. The late Rajah originally procured these from England.

* * *

A memorial signed by a number of distinguished scientists including Lords Lister and Kelvin, has been presented to the Secretary of State by Mr. Schwann, M.P., praying for the establishment of a Central Laboratory for advancing scientific teaching and research in connection with the Presidency College.

BOMBAY.

We regret to hear that Mr. C. W. Bhat, of Poona, died of plague contracted whilst visiting hospitals and segregation camps and assisting in house-to-house visitations. Both he and his wife were ardent advocates of the education of grown-up ladies at afternoon classes. One such class met at his own house. Mr. Bhat gave a fairly large sum of money to the Bombay University for founding a scholarship or prize for the benefit of unmarried Hindu girls prosecuting their studies at any of the Arts Colleges. A daughter of his passed the Matriculation examination last year from the Poona Female High School.

"The distribution of prizes at the Boys' and Girls' School in the camp at Baroda took place last month, when Colonel Martelli, the Governor-General's Agent at Baroda presided. Rao Bahadur Balabhoy, Native Agent to the Governor-General, who is a member of the School Committee, read the following report:—

"The Boys' Vernacular School was established in 1862. The population of the Cantonment, excluding the regiment sepoys, is 2,700 souls. The number of boys on the school register was 100 last year; this year it was 104. There is thus an increase of 4 boys. The average attendance was 76·25, as compared with 78·6 last year. The number of boys who presented themselves at the last annual examination, held by the Deputy Inspector of Schools, Kaira Division, on the 4th December last, was 78, of whom 54 successfully passed the examination. Last year, out of 77 boys who presented themselves, the number passed was 52. The percentage of the boys who presented themselves to those passed was thus 69·2 against 67·5 last year. The Girl's School in the Baroda Camp owes its existence to the benevolence of General Sir John Watson, late Agent to the Governor-General at Baroda, and was established on the 17th August 1883, through his exertions. He found the means to maintain it till 1887, and about the time he was leaving Baroda, he wrote to Government, and recommended its continuance which was indeed a great necessity. The small but picturesque building erected for its accommodation was endowed by His Highness the Gaekwar at the instance of Sir John Watson, who by his act of grace has made his name dear to every household.. The number of girls on the rolls of the school was 34 this year, as compared with 36 during the last year, the average attendance being 22 against 24. The number of girls who presented themselves at the examination was 15, of whom 7 passed. Last year, the number who presented themselves was 16, of whom 11 passed. The percentage of the number presented to the number of girls passed was thus 46·6 against 68·7. The results this year were thus not satisfactory."

The students having given a few recitations, Mrs. Martelli distributed the prizes to the successful students.

* * *

The Hon'ble Mr. Birdwood, the senior Member of the Bombay Council, who has just relinquished office, had long been intimately connected with the Bombay University, in which he evinced great interest. He was an Examiner at the very first examination conducted by the University and for several years continued in this capacity. In 1863 he was made a Fellow and was a Syndic for several years, having been Dean in Arts on three occasions. In 1891 he was appointed Vice-Chan-

cellor and during his term of office he never ceased to impress on the University the advisability of its becoming financially independent of Government. It is needless to add that throughout his connection with the University he took a prominent part in the various reforms which have been introduced. Mr. Birdwood was himself a man of good academic attainments. He was 23rd Wrangler in the Mathematical Tripos of 1858, and was elected Fellow of his College (St. Peter's). While on furlough in 1878, he passed the Cambridge Law Tripos Examination, obtaining the Degree of LL.M., and during a subsequent furlough he took the LL.D.

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Sir Jamsetji Jejeebhoy, Bart. C. S. I., presided at the annual distribution of prizes to the successful students of the Zend and Pehlvi Madressa, held towards the close of last month at the hall of the Sir Jamsetji Jejeebhoy Parsee Benevolent Institution. The Bombay University having recognised Avesta Pehlvi as one of the second languages in the B.A. course in 1895, Parsee students began to take advantage of this Zend College, and the number of its pupils grew in two years from 25 to 70. Sixteen candidates appeared from the Sir Jamsetji College at the examinations for the B.A. course and two at the M.A. Of these 18 candidates, 17 passed in the subject of Avesta Pehlvi, and 12 in all other subjects of their respective examinations. The examiners appointed to conduct the first examination in the B.A. course in Avesta and Pehlvi were Dastur Dorab Peshotan Sanjana, B.A., and Mr. Tahmuras Dishah Ankalesaria, who both have acquired their proficiency in this Institution. Two of the University prizes in Zend were carried off last year by the students of the Sir Jamsetji College. The Parsee community for such a good result have to thank the ex-Vice-Chancellor, Dr. R. G. Bhandarkar, and the Bombay University for the recognition by them of the Zoroastrian sacred languages in the B.A. course, as well as to congratulate Shams-ul-Ulama Dastur Peshotan B. Sanjana, the Principal of the Sir Jamsetji Zend College, upon the excellent way in which he and his colleagues have fulfilled the requirements of the University.

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The Educational Inspector, Northern Division, Ahmedabad, has notified that an Examination for admission to the Lower Grades of the Public Service will be held on Monday the 20th September 1897, and subsequent days, at the following Centres :—

Ahmedabad.	Godhra.	Surat.
Nadiád.	Broach.	Thána.

2. The examinations will be conducted in accordance with the

revised rules published in the *Bombay Government Gazette*, Part 1, of January 17th 1895, at pages 49—52.

3. Candidates should submit their applications, &c., on or before the 1st August 1897, to the President of their Centre, after which date no application will be received.

4. Candidates appearing at the Thána Centre are referred to the notice issued by the Educational Inspector, C. D., in the *Bombay Government Gazette*, Part II.

* * *

On the occasion of the celebration of the 22nd birthday of H. H. the Maharajah of Bhavnaggar, five scholarships, aggregating 900 Rs. per annum, were granted; a new Vernacular school was started at Vanera and the treasured institution of school treats continued throughout the State.

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Mr. M. MacMillan, B.A. (Oxon), acted in the Second Grade of the Educational Department *vice* Mr. S Cooke, during Mr. Chatfield's absence on privilege leave last year.

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Mr. J. T. Hathornthwaite, M.A. (Cantab), is appointed to act in the First Grade of the Educational Department during the absence of Mr. S. Cooke.

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The privilege leave for one month and fifteen days granted to Mr. Vithal Narayan Pathak, M.A., Head Master, Poona High School, is cancelled.

* * *

During the past year there were 33 boys and 22 girls on the rolls of the Bombay Scottish Orphanage Society. 14 girls and 2 boys were withdrawn during the year, while 8 boys and one girl were admitted. Of the boys who left 8 found employment, 3 as Apprentice Engineers, and 5 as employès in Government and Mercantile offices. At the Inspector's examination, the school did fairly well. The pupils were moved to *Matheran*, sanitarium, earlier than usual owing to the outbreak of the Plague; the distribution of prizes was held in the open air on the hills during the Easter vacation, with Dr. Hay, the Superintendent of *Matheran*, presiding.

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We much regret that since March last Professor O. V. Muller has ceased to supply us with Bombay Notes. We take this opportunity of expressing our obligation to him for the valuable and interesting Notes he has contributed to this Journal.

MADRAS.

We are glad to notice that the services of the Rev. Dr. Miller have been recognised by the *Pioneer* in the following laudatory notice:—

"With the departure a few days ago from Madras of the Rev Dr. Miller, there disappears one of the most successful educationists India has seen. Dr. Miller came out to India in 1862 at the age of twenty-four, as a member of the Free Church of Scotland Mission: and a few months after his arrival he found himself the sole representative of that Mission in Madras. At that time the Free Curch Mission was in charge of a school, known as the Central Institution, which had been founded in 1837 by a missionary named Anderson, for the benefit of the sons of local Anglo-Indian and Eurasian families. When Dr. Miller took charge of this Institution, its fortunes were at a very low ebb; funds were wanting, pupils could not be obtained in sufficient numbers, and those who did attend made little or no progress in their studies. Dr. Miller soon put life in the dry bones, and in a short time several of his pupils passed the examinations of the newly-founded Madras University. In 1867 the institution became a full-blown Arts College; its classes were thrown open to natives, who flocked to it in hundreds, and the results attained were such that in 1877 it became the College of all the Protestant Missions in South India, and its designation was altered into that of the Madras Christian College. For several years it has been the most largely attended College in South India, and the number of students on its rolls far exceeds that at the Government Presidency College. Dr. Miller, it is needless to state, was devoted to his work and took a personal interest in the welfare of his students, the poorer members amongst whom he was ever ready to help from his own purse. He founded two hostels for students attached to his College: in one of these Brahman students could be housed and fed without offending their caste prejudices; whilst in the other Native Christians of all denominations were lodged. It is this system of hostels which the Madras Government is now endeavouring to introduce at an exorbitant cost. As a member of the Syndicate of the Madras University, Dr. Miller, it goes without saying exercised preponderating influence; and when the epoch of enlarged Legislative Councils dawned, the Fellows of the University had no hestitation in returning him as their representative in the local Council. He was the only Fellow of the Madras University who has been twice called upon to deliver the Convocation address, *viz.*, for the first time in 1872, and again in 1894. In Scotland his services were recognised by the Edinburgh University, which presented him with the degree of D. D., and by his own Church which appointed him Moder-

ator of the General Assembly. From the Government of India, he received the C.I.E., certainly not an extravagant recognition of hiswork."

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The ninth annual prize distribution and the athletic sports of the Reformatory School, Chingleput recently took place at that town, the District and Sessions Judge, Mr. J. Hewetson, presiding. The athletic programme consisted of a long and varied list of events, and three prizes were awarded for each of the events. The report shows that the school has been doing steady and successful work during the past year.

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The annual Commemoration Day in connection with the Pachaiyappa's College was successfully held on the 19th ultimo. A very large number of the past and present students of the college attended, and the various events in the athletic programme were keenly contested. After the sports an adjournment was made to Pachaiyappa's Hall, where a meeting took place under the presidency of Dewan Bahadoor R. Raghunatha Rao; several toasts in honour of the founder, the college, the trustees, and the teaching profession were proposed and responded to.

* * *

Government has sanctioned the establishment of an experimental agricultural farm at Bellary. The general purpose of the proposed farm is stated to be the investigation of agricultural defects and the introduction of agricultural improvements. It is intended to serve as an object lesson demonstrating to the cultivator that improved methods of agriculture are profitable. The farm is not, however, to be opened until the return from furlough of Mr. Benson, Deputy Director of Agriculture.

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It was resolved, at a meeting of the teachers and the Inspecting Officers held last month in the Venkatagiri Rajah's High School, Nellore to start a Teachers' association for the Nellore District, the objects of the association being.—(1) the improvement of the methods of teaching; (2) the discussion of questions affecting education and the profession generally and if necessary taking action thereon; and (3) the promotion of social intercourse among teachers.

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We are sorry to hear that two students have been dismissed from the Law College, the charge against them being that they were disrespectful in the class to one of their Junior Professors. Apparently, we have not heard the last of this case.

A hostel for Smartha Brahmans is being constructed in connection with the Teachers' College, Saidapet. We understand it will be opened for use in July next.

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The examination of Educational Officers according to the Compulsory, High Proficiency and Honours Tests in the Vernaculars will be conducted by the Board of Examiners on the 5th July 1897 and the following days in Madras. Applications in the prescribed form should reach the Secretary on or before the 20th Instant.

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Southern India has lost a well-known educationist by the death last month of Rai Bahadur P. Sundaram Pillai., M.A., M.R.A.S., Professor of Philosophy, Maharajah's College, Trevandrum. He was an able Tamil scholar, and wrote various books in Tamil which were highly appreciated for the simplicity and the beauty of language. He was a Fellow of the University of Madras and for several years chief examiner in Tamil for the University. He belonged to an Aleppy family, and received his early education in Malabar, and afterwards came over to Madras, where he graduated in the year 1876. In 1880, he obtained the M. A. degree of the Madras University, taking Science and Moral Philosophy for his optional subject.

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We are glad to hear that Rev. Dr. Miller is improving in his health, and that he reached home safely.

* * *

Dr. Henderson, Professor of Biology, Madras Christian College, shortly goes home on furlough, and Mr. Reynolds will succeed him. The Rev. W. Skinner and Mr. A. B. Macauley are expected to join the College in July next.

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On Saturday, 24th April, the staff and students of the Military Female Orphan Asylum presented a farewell address to the Lady Superintendent Mrs. Griffiths, who had been connected with the school for more than four years, and gave her a prettily wrought silver tea-pot of Benares work and a gold ring, in token of their esteem and regard for the services rendered by her to the institution. Mrs. Griffiths, in acknowledging these gifts with thanks, said that they would be highly prized by her during the remainder of her life in remembrance of the years which she had spent in the institution as its Superintendent.

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The ninth Ordinary Meeting of the Coimbatore Teachers' Association was held on Wednesday, the 14th April 1897, in the hall of the Government Training School for Masters, under the presidency of Mark Hunter,

Esq., M.A. M. R.Ry. T. S. Venkataramana Aiyar, B.A., L.T., read a paper on "Punishment in Schools" which was both a historcal disquisition and a f..o: mal exposition of the theory of school punishment. The chairman made an able speech, in the course of which ... that while he quite concurred with the lecturer in the practical ... laid out by him, he slightly differed from him in the theoreti... ...s con... stifying punishment.

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For the First Examination in Law held this ... from the ... were 543 candidates. Last year there were 524 candidates, ...uted or ...passed— 13 in the second class and 79 in the third. During the previous year, again (18...95), when this examination was held for the first time, there were 470 candidates, of whom 186 passed—54 in the 2nd class and 132 in the third.

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The Presidency College Literary Society has arranged, as last year, to have a series of lectures delivered on behalf of the Association after the re-opening of the College in July next. The following gentlemen will take part:—Sir Roper Lethbridge; Mr. L. D. Swamikannu Pillai, M.A., B.L.; Mr. Mark Hunter, M.A.; Mr. R. S. Lepper, M.A.; Dr. T. ...Nai..., M. D.; Mr. R. C. C. Carr; and Mr. H. K. Beauchamp.

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The following gentlemen are the examiners at the Written Test of Teachers' Certificate examination held last month:—

Second Grade Collegiate:—Mr. T. T. Logan, B.A.; Rev. J. Cooling ...A.; and Mr. C. M. Barrow M.A.—*Upper Secondary Grade*:—Mr. C. C ...anagan, M.A.; Miss E. Carr; Mr. E. Marsden, B.A.; and Mr. J. M. ...elu Pillai (Tamil).—*Lower Secondary Grade*:—Mr. C. Nogoji Row Pantulu, B.A.; Mr. J. M. Velu Pillai: Mr. S. Rangayya Chetti, B. A.; Mr. M. Krishnan, B.A., B.L.; and Mr. Khaja Khan Sahib, B.A.

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For the Competitive examination of the Mysore Civil Service, 71 candidates have applied, of whom 49 are those whose domicile is in M... ...One of the applicants is from Hyderabad. The applicants will have to appear before a Medical Board.

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Mr. Narayan, B.A., a young Brahman, who graduated from the Christian College, and at present studying in the Second Law Class, has been nominated by the Syndicate of the Madras University for the Government of India Scholarship. Mr. Narayan will get a scholarship of £200 a year, for three successive years, besides his travelling expenses

to and fro. He must study in an English University dur.ing his stay in England. He intends competing for the Civil Service, and at the same time studying for the bar.

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From the nnual report of the Trichinopoly Teache rs' Association, which ha pleted the sixth year of its existence, we find that on the 31st De 1896 there were 27 members on the rolls (2 M.A.'s 15 B.A.'s, 5 F. Matriculates and 1 other), and that nearly half the number was fr S.P.G. College. The St. Joseph's Col lege and schools contrib ly 5. The Library had valuable additi ons made to it, and it now consists of 252 volumes. The Association met 11 times during the year. The Rev. T.H. Dodson, M.A., who was the President of the Association for 5 years, went home in May last and Mr. H . Malim was elected in his place. The Association has been doing good an d steady work since the time of its foundation, and there is no doubt that its effects on the teaching profession have been beneficial to all th ose connected with it.

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We are glad to see from the Report on the Administration of Puduk-kottai for fasli 1305 (July 1895—June 1896) that education in th e State is encouraged and is progressing in a most satisfactory manner. second-grade college (H. H. The Rajah's) at the capital had 649 pu on the rolls on 30th June 1896, against 605 on the same date of previous year. The majority of students were Brahmans. The cos the College was Rs. 18,915, of which Rs. 10,279 was covered by f The average cost per pupil was Rs. 29-2-4. The results achieved the University examinations were excellent and reflect great credit Mr. S. Radhakrishna Iyer, B.A., the Principal, and his staff, which is strong one, including as it does two M.A.'s. The Sanskrit College di fairly well throughout the year and was attended by 34 regular students. The Sirkar Girls' School had 173 pupils on the rolls and was maintained at a cost of Rs. 2,333. General Elementary Education made satisfactory progress. The number of schools in existence on 30th June 1896 was 244, an increase of 25 over the previous year. The number of scholars under instruction was 8,073 boys and 624 girl Technical education was well looked after. An industrial school an agricultural class were working during the year with fair succes The efforts of Mr S. Narayanaswami Iyer, Director of Education, and of the Dewan, in the cause of education were, it is satisfactory to notice, appreciated by those for whose benefit education was started.

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In the supplement to the Fort St. George Gazette of the 13th April,

the Director Public Instruction publishes a list of text-books approved of by the Department up to 31st December 1896. The list fills no less than 4 pages. The books under each standard are arranged, as nearly as possible, in the order in which they have been disposed of by the Text-Book Committee, and not in order of merit. Heads and Managers of schools are informed that, where more books than one are approved for any form or class, they are at liberty to select whichever book they like and Inspecting Officers are requested not to interfere with the freedom of managers and masters in this respect. Such officers however are directed to see when they visit schools, that the text-books in use are so got-up as not to injure the eye-sight of the pupils. The list will be maintained by every Inspecting officer in his office. It may be added that managers and masters are not prohibited from using suitable books other than those approved of by the Department, but if they do so, they act on their own responsibility. The standard of examination will be in all cases as regulated by the Department.

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At the prize distribution of the St. Joseph's College, Trichinopoly, held on the 19th ultimo, the Annual Report of the College for 1896-97 was read, from which we find that there were, on the 31st March 1897, 1,786 students on the rolls of the College, or 15 more than the strength on the 31st March 1896. The Principal thinks that the numbers would have been larger but for the following causes :—(1) the severity of the late First-in-Arts examination ; (2) the "hope deferred" that a certain vote in the Senate, by which the obligatory return of failed students to College was to be obviated, would long ago have become law ; and (3) the need there has been to check the ill-regulated ardour to join the Matriculation class on the part of many who are quite unfit for it. The staff consists of six Licentiates in Teaching, in addition to a large number of Catholic Fathers, who do professorial work. One of the assistants passed the Provincial Civil Service Examination and was made a Deputy Collector. The results of the various examinations have been generally good, and in some cases, excellent. The hostel in connection with the College continues to work satisfactorily. The Technical Department attached to the College worked with fair success, notwithstanding that there has been a considerable fall in its numbers. The St. Joseph's College, under its able and energetic Principal and Manager, Rev. Father Sewell, continued to maintain its position, during the year under review, as one of the leading first-grade colleges in Southern India.

CENTRAL PROVINCES AND CENTRAL IND

Shortly before the departure from Raipur (on retirement) of Colonel Temple, the Commissioner, he presided at the distribution of prizes at the Rajkumar College, at Raipur. The Principal was able to give a good account of the Institution under his charge, and Colonel Temple, in reply to the address of the Principal, remarked that he had followed with interest the fortunes of the College since its first inception three years ago, and that he was extremely gratified at the evidences of the rapid moral and material progress it had achieved during those three years. The College is now at its fullest, and the leading States and zamindaries of Chhattisgarh are well represented. There are representatives now in the College of the Feudatory States of Bastar, Patna, Kawardha, Raigurh, the little Gond Raja from Nagpur is there; one of the few Mahomedan Rajas of India, and representative zamindars from the districts of Chanda, Bilaspur, Raipur, Sambalpur and Narsinghpur. This Chhattisgarh Eton possesses now an excellent covered gymnasium, and one of its chief features is the extensive playing fields where the "young barbarians", as many of them literally were when they first joined, may be seen at play every afternoon of the working term.

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Mr. Mather, Principal of the Rajkumar College in Bundelkhand, has been granted furlough for 9 months.

PUNJAB.

The annual prize distribution of the Lahore Veterinary College took place on Saturday morning, the 17th April, with the Lieutenant-Governor presiding. The Principal, Veterinary Captain A. T. Pease, in addressing His Honour remarked that the Institution had now been 15 years in existence, during which time 417 men have graduated as Veterinary Assistants. The first Principal was Veterinary Lieutenant-Colonel Kettlewell, the next was Veterinary Captain Nunn, who had recently left for more congenial employment in Europe and third was the speaker, (Veterinary Captain Pease), whose connection with the Institution however dated from 1888. The Principal next proceeded to state that though great progress had been made, there were no isolation wards attached to the College, and thus the students could not be practically taught the treatment of contagious and infectious diseases among animals, such as, Glandus, Rinderpests, Anthrax, Surra, &c.

The general practice of the Institution is good, over 2,000 horses and 1,500 cattle having been treated during the past year. Graduates of the college have hitherto easily obtained employment and have been in great request in other countries, such as Burmah, the Straits, Aden &c., and five applications for men for employment in British East Africa were received. The college seems popular in the Punjab, as for 20 vacancies there were no less than 125 applicants, who submitted to an examination for the above vacancies. The college results were good, 28 being successful out of the 39 candidates who presented themselves for examination. Several changes were made in the educational system, the most important being the division of the 1st and 2nd year's classes—a separate course of lectures being given to each of these.

After His Honor the Lieutenant-Governor had addressed the students expressing the great interest he felt in the institution and dwelling upon the importance of Veterinary Science to Agriculture, the prizes were distributed and His Honor and the European guests visited the various parts of the College.

* * *

We regret to state that the son of H. H. the Nawob of Bahawalpore who recently joined the Aitchison's Chiefs' College met with a serious accident. His horse took fright in the college premises and bolted towards the hospital building. The young Prince, who is about 12 years of age, was violently thrown and knocked his head against a pillar. Medical aid was promptly summoned, and though he was insensible for some time, he was brought round and has been, we are happy to state, making a good recovery.

* * *

The students who appeared at the recent Arts examination of the Punjab University are desirous of celebrating Her Majesty's Diamond Jubilee in a manner which will be highly profitable to themselves. They have petitioned the Chancellor of the University to use his influence towards procuring for all of them Diplomas and Certificates in honour of the forthcoming commemoration. It is to be feared, however, that the University will scarcely be prepared to accede to this loyal request.

* * *

The report of Mr. W. Bell, Inspector of Schools, recommends a grant of Rs. 1,200, or Rs. 100 a month for St. Anthony's Roman Catholic School from the beginning of March 1897. The school earned Rs. 1,275 as tuition grant, but that amount had been reduced to Rs. 1,194, as the condition laid down in the grant-in-aid Code as regards the keeping up of the attendance and admission registers were not carefully observed.

N.-W. PROVINCES.

Mr. Beck, Principal of Aligarh College, left for England on six months' leave. During Mr. Beck's absence from Aligarh, Mr. Morison officiates as Principal.

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The last Annual Report of the Mufeed-I-Am School at Agra which was founded in 1858, shows that the number of students now in attendance is 305, of whom 39 are Brahmans, 59 are Banias, 119 are Kaisths, 8 are Rajputs, 54 are Mussulmans, 4 are Bengalees, and 22 belong to other classes. 179 of these are under, and 226 over 10 years of age. 33 boys were sent up for the Middle School examination, and 11 passed. The Government grant for the school is Rs. 96 per mensem. Rs. 225 is realised as school fees and Rs. 160 is contributed by the Municipal Board of Agra. There are 10 English teachers, 2 Persian teachers, 2 Hindi teachers, one drawing master and one teacher of Mathematics. The fees range from six annas to Rs. 1-8 per mensem. 41 prizes are to be awarded for general proficiency, 5 for regular attendance, 10 for good conduct, 24 for writing, 7 for drawing and 3 for translation. The Head Master and masters have worked satisfactorily, and the Inspector of Schools has made a good report in regard to the institution.

* * *

The distribution of prizes at the Imperial Dehra Dun Forest School took place on the 31st March last, in the presence of a large gathering of residents of Dehra Dun and its neighbourhood. Mr. Ribbentrop, C.I.E., Inspector-General of Forests, presided, and Mr. Oliver, Conservator of the School Circle and Director of the Forest School, commenced the proceedings by addressing the audience about the progress made during the past year. 24 students in the Upper Class gained Ranger's certificates (one with honours) while; 8 in the Lower Class obtained Forester's certificates. There were many changes in the staff; Mr. Gamble left in August last on long leave; Mr. Smythies vacated the post of Deputy-Director at the beginning of the year and was succeeded by Mr. Gradon, who however was absent for the greater part of the year, Mr. Osmaston acting for him; Mr. Rogers broke down in health towards the close of the year and was replaced by Mr. Osmaston; Mr. Grenfell w... invalided home; and at the time of the distribution Mr. C... Assistant Agricultural Chemist was laid up with typhoid... health of the students was not good and during the rains... them were incapacitated by illness from attending the... death occurred from typhoid fever and there had be... cholera. The European and Eurasian pupils as usua... local Volunteers.

chools
...ts of Natural Zoology.

Mr. Ribbentrop, in addressing the students, congratulated them on the successes achieved; but admitted that he had entertained serious misgivings about the progress of the school owing to the frequent changes in the teaching staff; these misgivings were however dispelled on examining the pupils. He remarked that there was a tendency on the part of the students to answer questions without logically analysing them. He had asked one of the best of the students "If a goose weighs seven pounds and half his own weight, what does the goose weigh?" and the student was completely puzzled. In conclusion Mr. Ribbentrop exhorted the successful students, who were leaving the school, to continue working at the various subjects connected with Forestry, and not to run away with the idea that they were already "finished foresters."

* * *

At the recent Intermediate examination of the Allahabad University, some of the questions in the Mathematics paper travelled beyond the limits of the Syllabus. There were several complaints about this and the University authorities issued instructions to the examiners to so arrange the marking of the answer papers that no candidate suffered injustice from the fact of these unauthorized questions having been set.

* * *

The following are the passes at the recent annual examinations of the Allahabad University:—

M.A. Degree, Second Division.—Muir Central College, Allahabad, 2; St. John's College, Agra, 1; Agra College, 1.

M.A. Degree, Third Division.—Muir Central College, Allahabad, 3; Agra College, 2.

B.A. Degree, A. Course.—Muir Central College, Allahabad, 23; Agra College, 15; St. John's College, Agra, 8; M.A.O. College, Aligarh, 10; Government College, Ajmere, 1; Bareilly College, 10; Queen's College, Benares, 20; Canning College, Lucknow, 30; Women's College, Lucknow, 1; Lashkar College, Gwalior, 3; Maharajah's College, Jeypur, 3; Meerut College, 1; Madhava College, Ujjain, 5;

B.A. Degree, B. Course.—Muir Central College, Allahabad, 4; [illegible]een's College, Benares, 2; Government College, Jabalpur, 3; Lashkar [illegible] Gwalior, 1.

[illegible]*ree.*—Muir Central College, Allahabad, 3; Agra College, [illegible]ege, Lucknow, 2.

[illegible]*y B.A. Examination, B. Course.*—Muir Central Col-[illegible], 6; Maharajah's College, Jeypur, 1; Government [illegible], 1; Bareilly College, 1.

REVIEWS OF BOOKS.

We beg to acknowledge the receipt of the following books :—

From *George Bell and Sons, (Bombay)*.—The Plutus of Aristophanes, with Introduction and Notes by M. T. Quinn, M.A., late Principal, Pachaiyappa's College, Madras. A Systematic Course of Geometrical Drawing, by T. A. V. Ford, M.R.C.S. (Eng.)

From *Longmans, Green and Co., (Bombay)*.—Geometrical Drawing for Art Students, by J. H. Morris. Price 1*s*.6*d*. Rhythm, Analysis and Musical Form, by T. H. Berthenshaw. Price 2*s*.6*d*. Longmans' English Classics :—Coleridge's, "The Rime of the Ancient Mariner," Price 1*s*. 4*d* ; Macaulay's Essay on Milton, Price 1*s*.4*d*.

From *Rivington, Percival and Co., (London)*.—Rivington's Single Term Latin Readers, edited by W. Greenstock, B.A :—Fourth Term (Book I.), Price 1*s*. ; Fifth Term (Book I.), Price 1*s*.4*d*. ; Fifth Term (Book II.), Price 6*d*. ; Sixth Term (Book I.), Price 6*d*. Legends of German Heroes of the Middle Ages, by A. R. Lechner. Price 2*s*. Macaulay's Essays on Pitt and Chatham, by A. Hillard, B.A. Price 1*s*.6*d*. Books of the Bible :—The Gospel according to St. Mark, edited by the Rev. A. E. Hillard M.A., Price 1*s*.6*d*. ; The First Book of Kings, edited by the Rev. W. O. Burrows, Price 1*s*.6*d*. ; The Book of Ruth and First Book of Samuel, edited by the Rev. P. W. H. Kettlewell. Price 1*s*.6*d*.

From *William Blackwood and Sons, (Edinburgh and London)*.—Ancient Classics for English Readers, edited by Lucas Collins. Herodotus, by George C. S[illegible]ayne, and Cæsar by Anthony Trollope.

From *Messrs. Coo[illegible]r and Cooper, (Bombay)*.—Milton's Comus with Introduction, Annotati[illegible]n and Paraphrase, by R. Scott M.A., Professor of Engl[illegible] [illegible]terature, [illegible]ilson College, Bombay.

From *Macmillan and Co., (London)*.—Selections from Steele's Contributions to the *Tatler*, by L. E. Steele, M.A.

From *Swan, Sonnenschein and Co., (London)*.—The Public [illegible] Year Book 1897.

From *O. Newmann and Co., (London)*.—The Ele[illegible] Science, by [illegible] H. Wettstein, Part II.—Physiology ar[illegible]

A TAMIL GRAMMAR. By V. Soundraraja Aiyangar. Kumbakonam: *Lord Ripon Press.*

This book of Tamil Grammar will be welcomed by the pupils of secondary classes and particularly by those of the first, second and third forms. On account of its clearness and simplicity of language and the explanatory character of the treatment of the various rules, it might well take the place of Mahalinga Aiyar's Grammar, which is now used as a text-book in Lower Secondary Schools. It may be safely used as a good introductory text-book to the Nannul, now used in the High School forms. The author has done well in giving at the end of each rule the corresponding Nannul Sutram, and this feature may claim for it its adoption as a text-book even in High School classes. All the important Sutrams find place in the book and the author has bestowed great pains in the collection and arrangement of the matter and in the sifting and clearing of certain knotty points. The notes in small type at the end of some rules give valuable hints.

THE FLOURISHING OF ROMANCE AND THE RISE OF ALLEGORY. By George Saintsbury, M.A. Edinburgh and London: *William Blackwood & Sons.* Price 5s. net.

This work which is No. II of the "Periods of European Literature," is one to the review of which half a dozen of our pages should be devoted for every chapter requires notice. We must however content ourselves with saying that students of English Literature will welcome the work as an excellent exposition of the subject dealt with. For the benefit of our readers, we give the subject-matter of the various chapters:—I. The Function of Latin; II. Chansons de Geste; III. The Matter of Britain; IV. Antiquity of Romance; V. The Making of English and the Settlement of European Prosody; VI. Middle High German Poetry; VII. The "Fox," the "Rose," and the minor contributions of France; VIII. Icelandic and Provencal; IX. The Literature of the Peninsulas; X. Conclusion.

KINDERGARTEN GUIDE. By Lois Bates. London, New York and Bombay *Longmans & Co.* Price 6s.

The name of the author is a guarantee that the work deals thoroughly with the subject. In about 400 pages the author thoroughly treats of the principles and practice of the kindergarten system, and in this he is assisted by over 200 illustrations and 16 colored plates. The teacher of every kindergarten class would do well to purchase the work.

A Hand-Book of Greek Sculpture. Part II. By Ernest Arthur Gardner. *Macmillan & Co.* Price 5s.

This work has been so favourably commented on in the *Educational Review* (London) and elsewhere that it scarcely needs any further notice here. The first part of Mr. Gardner's work brought us to the fifth century before Christ and it is from this point that the second part takes up the thread. The fifth century before Christ saw the development of the school of Phidias, the aim of which was the divine and the ideal as opposed to the human and realistic, which characterised the school of Prasciteles. The work under review contains 75 excellent illustrations of sculptures, most of them of world-wide reputation. The letterpress is extremely interesting, being written in a most sympathetic style. The work is a marvel of cheapness.

Macmillan's Historical Readers. Book VII.

This number deals with the House of Hanover and gives in 60 lessons a very fair insight into the steady growth of the British Empire. The career of those great statesmen and warriors that have mainly helped in the building-up, and the chief legislative acts and events under each reign are given in simple language which is suited to the requirements of the Matriculation class. To pupils that have no particular liking for History this series is specially commended. Its easy and interesting style will be found attractive. Literature, one of the factors in the development of Britain's greatness, is not overlooked. There are chapters on Dr. Johnson, Thackeray and Dickens. The type, paper and chronological arrangement are good, so also are the illustrations most of them of scenes, persons and places worth remembering, for example, Chatham's last appearance in the House of Lords—the meeting of Havelock and Outram—Waterloo. The notes are few and excellent. A good feature in the work is the summary of each lesson at the end of the volume. There is a table of leading events with dates, and for frontispiece a very good likeness of our Queen-Empress in her robes of State.

Macmillan's New Literary Readers, Book V.

This volume comprises a variety of selections for the class-room spread over 60 lessons. It might with advantage be used in Forms 5 and 6. *A Noble Englishwoman* in the person of Miss Pattison, Forbes's graphic account of the *Russians before Plevna* and of the *Zulu War*, Tennyson's *Revenge*, and Scott's *Sir William Wallace* are among the Selections. At the end of each lesson are a few useful notes. The paper and illustrations are good, and the type clear and fairly large.

MICAH CLARKE. By Conan Doyle. Longmans' Indian University Texts.

This well-known novel is specially adapted to Indian Readers. A map of the route taken by Micah Clarke and copious Notes are supplied to explain the text.

[A]NTHROPOLOGY: MADRAS GOVERNMENT MUSEUM BULLETIN, VOL. II. No. 1. By Edgar Thurston, C.E.Z.M.S. *Government Press.* Price Re. 1.4

Those who are familiar with Mr. Thurston's Bulletins will wel[co]me the present publication, which deals with the Badagas and Irulas of the Nilgiris and with other less known tribes. The work combines science with amusement. There are 17 illustrations, which add to the value of the book.

WASHINGTON IRVING'S TALES OF A TRAVELLER. London, New York and Bombay: *Longmans, Green & Co.*, 1896.

If good English is to be read there is no necessity that it should be dull. Probably entertaining stories like those before us will serve the purpose of the student of English as well as the uninteresting essays and the pondrous disquisitions, which Indian youths so much affect. The words and expressions, which a native student would probably not understand, are explained in foot-notes.

THE DIVORCE OF CATHERINE OF ARAGON. By James Antony Fro[ude]. London, New York and Bombay: *Longmans, Green & Co.*

It is almost unnecessary to say anything in favour of such a work as the above, as its author's name is a sufficient guarantee of its excellence. Though dealing with a subject, which many writers would make repellent, the publication under reference is most interesting, not to say fascinating.

LIGHT by W. T. A. EMTAGE. *Longmans, Green & Co.*, 1896. Price 6s.

The lucid manner in which the author has explained the difficult points in the theory of optics will be a boon to many a student of science. The author is the Principal of the Wordsworth Technical Institute and late Professor of Mathematics and Physics. This book is intended for the use of advanced students of science and as such contains an account of all important points of optics both geometrical and physical. The publication being an advanced treatise, Mathematics have been freely used, but the principles of Higher Mathematics have been intentionally avoided so that the book may be read through without any more

advanced knowledge of Mathematics than that required for the F.A. or Intermediate standard. The author however has used the Differential Calculus in the solution of certain problems with a view to encourage the student in the use of the shorter and more elegant methods of solving problems. The experimental side of the subject is well treated and hints are given in most places for taking quantitative measurement The treatment of the subject is not unlike that in other books in us The chapter on 'thick lenses,' 'interferences of light,' 'defects images formed by mirrors and lenses' are full of information and conta a clear exposition of the phenomena they deal with. The book under review is better illustrated and is more full of information than most other books in use. Yet the treatise might be made more useful by the addition of an account of the theory of Newmaun and Maccullagh about double refraction and by an account of the method of studying the spectra of stars. We recommend the work to students preparing for the B.A. and M.A. examinations.

MATHEMATICS.

Solutions of Questions.

95. (*G. Kasturi Aiyangar, M.A.*). Form groups of numbers whose sum is 100 no digit occurring more than once in each group.

—(*Cf.* Q. 39).

Solution by the Proposer.

Let a denote the sum of all the digits that are not used [illegible]orming the numbers.

The sum of all the digits being 45, the sum of all [illegible]ent digits is $(45-a)$

Of these, some are in the unit's and the rest in the ten[illegible]r obviously there can be no digit in the hundred's place.

Let t be the sum of the digits in the ten's place: the [illegible] digits in the unit's place is $45-a-t$.

$\therefore$ The sum of all the numbers $=10t+45-a-t=9t+4$[illegible]

But this is, by hypothesis, equal to 100.

$$\therefore\quad 9t+45-a=100 \quad \therefore\quad t=\frac{55+a}{9}.$$

Taking intergal solutions for t, a should be one of the following eries : 8, 17, 26, 35, 44. ....

But since a cannot be greater than 45 the sum of all the given digits, only 5 of these values of a need be taken.

The corresponding values of t are 7, 8, 9, 10 and 11.

1*st case*. When $a=8$ and $t=7$.

In this case numbers are formed by leaving out 8, or digits whose sum is 8, and by taking 7, or digits whose sum is 7, in the ten's place and having the rest in the unit's place.

	Tnes.	*Units.*	*Leave out.*
Group a.	7,0	1,2 . . . 9	8,0
	6,1	2,3,4,5,7,9	,,
	5,2	1,3,4,6,7,9	,,
	4,3	1,2,5,6,7,9	,,
	4,2,1	3,5,6,7,9	,,
,, *b.*	5,2	0,3,4,6,8,9	7,1
	4,3	0,2,5,6,8,9	,,
,, *c.*	7	0,1,3,4,5,8,9	6,2
	4,3	0,1,5,7,8,9	
,, *d.*	7	0,1,2,4,6,8,9	5,3
	6,1	0,2,4,7,8,9	,,
	4,2,1	0,6,7,8,9	,,
,, *e.*	7	0,2,5,6,8,9	4,3,1
	5,2	0,6,7,8,9	,,

The numbers are 70,1,2,3,4,5,6,9=100
60,12,3,4,5,7,9=100
50,21,3,4,6,7,9=100 ; and so on.

Similarly for the remaining 4 cases.

Taking $a=17$ and $t=8$

Group a	1,7	9 8
	2,6	9 7 1
	2,5	9 6 2
		9 5 3

10,72,3,4,5,6,=100.

112. (*S. Padmanabha Aiyar, B.A.*) Two particles are projected from the same point and with the same velocity, but at different instants, in a smooth circular tube of small bore, whose plane is vertical. Shew that the line joining them always touches a circle.

Note by A. Radhakrishna Aiyar, B.A.

This problem is worked out in Tait and Steele's *Dynamics of a Particle*, Chapter VI., Example 9, page 223.

120. (*C. K. Balasubramanian*). Ash saplings after five years' growth are worth 1*s*. 3*d*. and increase in value 1*s*. 3*d*. each year afterwards. For their growth they require each twice as many square yards as the number of years they are intended to grow before cutting. A plantation is arranged such that each year the same number may be ready for cutting. Find the greatest annual income which can be obtained per acre allowing 20 per cent. for expenses.

Solution by A. Radhakrishna Aiyar, B.A.

Let $x+4$ be the number of years they are intended to grow, y the number planted in an acre;

If the plantation is arranged such that each year the same number may be ready for cutting, $\frac{y}{x+4}$ will be ready for cutting each year.

As each is worth $\frac{5}{4}x$ shillings, the annual income allowing for expenses will be $\frac{x \times y}{x+4} \cdot s.$ Also $4840 = 2y(x+4)$.

$\therefore$ The greatest annual income is the greatest value of £$\frac{x}{(x+4)^2} \cdot 121$, which can be easily found out, from the theory of quadratic expressions to be £$\frac{121}{10}$

181. (*J. Johnson B.A.*) Given the magnitude and position of two conjugate diameters of an ellipse, find analytically the magnitude and position of the axes of the curve.

(1) *Solution by A. Radhakrishna Aiyar, B.A., and others.*

The equation to the ellipse referred to its axes is $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$.

If $(a\cos\theta, b\sin\theta)$, $(-a\sin\theta, b\cos\theta)$ be the ends of the conjugate diameters CP, CD,

$$a^2\cos^2\theta + b^2\sin^2\theta = k \quad \ldots \quad \text{I}$$
$$a^2\sin^2\theta + b^2\cos^2\theta = l \quad \ldots \quad \text{II}$$

Also as CP, CD, are given in position, the triangle PCD which is equal to $\frac{1}{2}ab$ is given in area. Thus $ab = m^2$ ... III

The equation I, II, III will give the values of a, b, θ, from which the position and magnitude of the axes are found.

(2) *Solution by T. S. Thillainayakum, B.A.*

Let r_1, r_2 be the given conjugate semi-diameters, ϕ_1, ϕ_2 the angles

...spectively with the axis major and ψ the angle they make ...ach other.

Then we have $r_1^2+r_2^2=a^2+b^2$ ... (1)

$$2r_1r_2 \sin\psi=2ab \quad \ldots \quad (2)$$

where a and b are the semi-axes of the ellipse.

To find ϕ, we have, since $\phi_2=\phi_1+\Psi$, $\tan\phi_1 \tan(\phi_1+\Psi)=-\frac{b^2}{a^2}$.

195. A polygon of $2n$ sides, n of which are equal to a and the other n to b is inscribed in a circle. Shew that the radius of the circle is $\frac{1}{2}\left(a^2+2ab\cos\frac{\pi}{n}+b^2\right)^{\frac{1}{2}}\operatorname{cosec}\frac{\pi}{n}$. [—*Hobson.*]

Solution by T. Sundara Row, B.A., and others.

Let O be the centre of the circle and ABC the polygon, and let AB and BC$=b$; then angle AOC$=\frac{2\pi}{n}$ and if AB be produced to D, angle CBD$=\frac{\pi}{n}$.

From the triangle AOC, AC$=2r\sin\frac{\pi}{n}$.

From the triangle ABC, AC$=\left(a^2+2ab\cos\frac{\pi}{n}{}^2b+\right)^{\frac{1}{2}}$.

217. (*V. R. Tyagaraja Aiyar, M.A.*) Prove that the roots of

$$32x^5+16x^4-32x^3-12x^2+6x+1=0$$

are $\cos\frac{2\pi}{11}$, $\cos\frac{4\pi}{11}$, $\cos\frac{6\pi}{11}$, $\cos\frac{8\pi}{11}$, $\cos\frac{11\pi}{11}$.

(1) *Solution by V. Krishnamoorthy and others.*

Expand $\cos 11\theta$ in powers of $\cos\theta$ and put $\cos 11\theta=1$.
Then writing $x\equiv\cos\theta$ we have

$$2^{10}x^{11}-11.2^8x^9+11.2^8.x^7-77.2^4x^5+55.2^2x^3-11x-1=0.$$

The roots of this equation are 1, $\cos\frac{2\pi}{11}$, $\cos\frac{4\pi}{11}$ .... $\cos\frac{20\pi}{11}$,

Rejecting the root 1, we have

$$2^{10}x^{10}+2^{10}.x^9-7.2^8x^8-7.2^8x^7+2^{10}.x^6+2^{10}.x^5-13.2^4x^4$$
$$-13.2^4x^3+3.2^2.x^2+3.2^2x+1=0.$$

This equation has pairs of equal roots $\left(\text{for }\cos\frac{2\pi}{11}=\cos\frac{20\pi}{11},\ \&c.\right)$

Extracting the square root we get the result.

(2) *Solution by D. D. Kapadia.*

Consider the equation $\cos 6\theta=\cos 5\theta$

$$\therefore\quad 6\theta=2n\pi+5\theta$$

$$\therefore\quad \theta=2n\pi \text{ or } \frac{2n\pi}{11}.$$

Now $\cos 6\theta = 32\cos^6\theta - 48\cos^4\theta + 18\cos^2\theta - 1$

and $\cos 5\theta = 16\cos^5\theta - 20\cos^3\theta + 5\cos\theta$

putting $\cos\theta = x$ we get $32x^6 - 48x^4 + 18x^2 - 1 = 16x^5 - 20x^3 + 5x$.

$\therefore\ 32x^6 - 16x^5 - 48x^4 + 20x^3 + 18x^2 - 5x - 1 = 0$, and the roots of this equation are evidently the different values of $\cos 2n\pi$ and $\cos\frac{2n\pi}{11}$.

Divide by $x-1$, the factor corresponding to the root $x = \cos 2n\pi$.

$\therefore\ 32x^5 + 16x^4 - 32x^3 - 12x^2 + 6x + 1 = 0$ is an equation whose roots are $\cos\frac{2\pi}{11}, \cos\frac{4\pi}{11}, \cos\frac{6\pi}{11}, \cos\frac{8\pi}{11}, \cos\frac{10\pi}{11}$.

Questions for Solution.

241. (*M.C.S.A.*) Find the prime numbers of which 30, 507,813 is the product ?

242. *D. D. Kapadia.*) If D, E, F, be the middle points of the side of a spherical triangle ABC, shew that AD, BE, CF meet in a point, P, such that

$$\frac{\text{Sin DA}}{\text{Sin DP}} = \frac{\text{Sin EB}}{\text{Sin EP}} = \frac{\text{Sin FC}}{\text{Sin FP}} = \sqrt{3 + 2\ (\cos a + \cos b + \cos c)}.$$

243. If the roots a, b, c of the equation $\lambda^3{}_3\lambda^4{}_2x^3 - \lambda^4{}_1\lambda^4{}_2x^2 + \lambda^9{}_3x - \lambda^4{}_2\lambda^6{}_3 = 0$ be in *A.P.*, prove that

$a^2 - \lambda^4{}_2/a^2,\ b^2 - \lambda^4{}_2/b^2\ ;\ c^2 - \lambda^4{}_2/c^2$ are also in *A.P.*

—[*Bombay, M.A.* 1885.]

244. (*C. N. Cama.*) If $x = \cos y$, show that

$$\sum_{n=0}^{n=\infty} \frac{(-1)^n}{2^n \angle n} \cdot \frac{d^n}{dx^n} \cdot (\sin^{2n} y) = \tfrac{1}{2}\operatorname{cosec}\frac{y}{2}.$$

245. Required the parameters of the double points on the cubic

$$x : y : z = \theta^3 - 12\theta^2 + \theta + 5 : \theta^3 - 2\theta^2 + 7\theta^2 + 10 : \theta^2 + \theta.$$

—[*Math. Tripos*].

246. (*C. N. Cama.*) Prove that in any conic $\frac{d^3}{d\psi^3}(\rho^{-\frac{2}{3}}) + 4\frac{d}{d\psi}(\rho^{-\frac{2}{3}}) = 0$, where p is the radius of curvature and ψ the angle made by the perpendicular from the origin on the tangent at any point with a fixed line.

247. (*B. N. Cama.*) Shew that if a, b be the distances of two planets from the sun, w the mean of their angular velocities about the sun and r the distance between them the angular velocity of the one as seen from the other is

$$w\left\{1 - \frac{(b^{\frac{3}{2}} - a^{\frac{3}{2}})\ (b^2 - a^2)}{r^2\ (b^{\frac{3}{2}} + a^{\frac{3}{2}})}\right\}.$$

248. (*B. N. Cama.*) Show that the maximum distance which can be saved in a single voyage by sailing along a great circle instead of a parallel of latitude is $a\ \{2 \sin^{-1}\frac{2}{\pi} + \sqrt{\pi^2 - 4} - \pi\}$ where a is the earth's radius.

249. (*T. R. Venkataswmi Nayudu, B.A.*) Solve the following question from the Madras F. A. paper of 1878, pointing out any superfluous conditions in it:—

"PP′ is the chord of circle parallel to the diameter AB, and AP′ and BP are drawn intersecting in Q. If R and R′ be the radii circles circumscribing PQP′ and AQB, respectively, show that

$$R'^2 - R^2 = a^2,\ \text{where } AB = 2a."$$

NOTICE TO CORRESPONDENTS.

Mathematical contributors are requested to communicate their address to the Mathematical *Editor,* College of Engineering, Madras.

NOTIFICATION.

BOMBAY.

List of appointments in the Educational Department for the months of March and April 1897.

5th March 1897.—Mr. Antaji Chintaman Damle is appointed 2nd Assistant, Dhulia Training School.

8th March 1897.—Mr. M. T. Kangralkar is appointed 12th Assistant, Dharwar High School; Mr. R. R. Datar is appointed 15th Assistant, Belgaum High School.

13th March 1897.—Mr. C. J. Sheth is appointed clerk in the Ahmedabad High School; Mr. D. N. Shah is appointed Head Clerk, Deputy Educational Inspector, Kaira Sub-Division.

15th March 1897.—Mr. R. P. Godbole, B.A., is appointed Head Master, Dhulia Training School.

The following appointments are made in the Elphinstone High School the Marathi side.—*15th March* 1897:—Mr. A. S. Dalvi to be 2nd Assist-; Mr. G. M. Dhairyawan to be 3rd Assistant; Mr. V. V. Bhide, B.A., to be h Assistant; Mr. S. P. Gothaskar is appointed 2nd Assistant, Ratnag High School.

20th March 1897.—The following appointments are made in the Elphinstone High School:—Mr. K. F. Daruvala to be 6th Assistant; Mr. F. K. Bajan to be 7th Assistant; Mr. N. M. Powari to be 8th Assistant; Mr. S. B. Doctor to be 9th Assistant; Mr. E. R. Sahiar to be 10th Assistant; Mr. F. P. Desai to be 11th Assistant; Mr. N. K. Daji to be 12th Assistant; Mr. S. M. Vazifdar to be 13th Assistant; Mr. U. G. Diwan to be 15th Assistant; Mr. J. B. Mehta to be 16th Assistant; Mr. B. M. Banadurji to be 17th Assistant; Mr. B. M. Sutaria to be 19th Assistant; Mr. B. K. Lentin to be 20th Assistant; Mr. Y. H. N. Kasami to be 21st Assistant.

27th March 1897.—Mr. N. C. Kelkar, B.A., is appointed 4th Assistant, Sholapur High School; Mr. K. G. Joshi, B.A., is appointed 4th Assistant, Dhulia High School; Mr. D. N. Kelkar is appointed 5th Assistant, Dhulia High School.

29th March 1897.—Mr. A. H. Mahadevia is appointed 14th Assistant in the Nariad High School, but to continue as Head Master, Deesa English School; Mr. C. A. Mehta is confirmed as 11th clerk in the office of the Director of Public Instruction; Mr. K. M. Manskar is confirmed as 2nd clerk to the Deputy Inspector, Sholapur.

3rd April 1897.—Laxman Govind Maratha is confirmed as gymnast in the Training College, Hyderabad.

Thackeray is one of the purest and correctest writers I know and Albert Smith is among the most slipshod; but, in spite of the lines I have quoted, I venture to affirm that Lindley Murray had as little to do with the making of the one as with the marring of the other.

Perhaps I have laboured this point too much already, but before I pass on and try to point out a more excellent way, I would invite the aid of a powerful but somewhat dangerous ally to show that I am not fighting single-handed against grammar. With much that Dr. Bain says on the teaching of rhetoric and composition I disagree, and will, if time permits, give my reasons for disagreeing; but his views on grammar teaching, and its relation to composition, seem to me sound and sensible; and I chose out Dr. Bain because, in spite of his anti-classical bias and lack of literary skill, he is the first English writer to treat education—the whole and not a province of it—as a science. Well then, Bain tells us that it is futile to begin teaching grammar before the age of ten at earliest. "It is the worst economy to anticipate the mind's natural aptitudes for any subject: and the aptitude for grammar in its true sense does not exist at eight or nine years of age." In Bain's opinion grammar is more difficult than arithmetic, and on a par with the beginnings of algebra and geometry. "Grammar and rhetoric," we further read, "are not separated by any hard and fast line, yet the two departments are distinct. To be grammatical is one thing; to be perspicuous, terse, or unctuous [who wants to be unctuous?] is another thing." I hope I have convinced any who need convincing that composition must be treated as a separate subject, not as an appanage or development of grmmar or as a series of riders to or deductions from the formal rules of language.

I pass with some diffidence from the destructive to the constructive part of my argument. I have had no practical experience of the earlier stages of composition, with which I am attempting to deal. I can only attempt to indicate certain guiding principles which each master must work out in his own way. And, at the risk of seeming to be offering lame excuses for ignorance and capacity, I will point out at starting one advantage that a vague and general treatment of the subject possesses. Knowing the importance that is attached to rhetoric in French schools and the marvellous success that French masters attain in this subject (the average Frenchman, *teste* Matthew Arnold, writes his native tongue far better than the average Englishman), I applied to M. Marion to inform me what were the recognised text-books employed in French *lycées* and *collèges*. M. Marion answered: "I can tell you of none. That class of books is almost obsolete. The professor must be his own manual. If he himself has a true appreciation of literary style, and the ability to express himself, he will inspire his pupils with the same literary taste, he will serve as their model. No text-book can take the place of the living master."

FIRST ATTEMPTS.

M. Marion's opinion, which I fully endorse, leads directly to my first proposition. Composition is a practical art, acquired, not by rule, but by imi-

tation. It is by imitation alone that a child learns to converse, and his conversation will be correct or incorrect, elegant or vulgar, according as he has been conversant with well-bred or ill-bred people. Now composition in its earlier stages is, or ought to be, *une conversation par écrit.* It would seem to follow that, if our pupils can be made to talk well, half the battle of writing, and in the case of elementary scholars the whole battle, is won. But, as you all know to your cost, this theory will not hold water. If, like Rousseau's Emile, each pupil had a governor told off to him, I think all written composition might well be deferred till the age of thirteen or fourteen. But, with a class of forty or thirty, or even with a class of twenty, the conditions are wholly changed, and the natural method of oral composition must needs be supplemented by writing. *On devient forgeron en forgeant,* as the French proverb has it—you won't become a smith by being in the smithy or even by watching the blacksmith at work. The *idola theatri* may be broken in the class-room, but the *idola specus* will persist. Each boy has his personal equation, and must be worked out separately if any real progress is to be made. To spell correctly, to punctuate, to avoid solicisms—these, indeed, are acquirements which may be taught to a class as a class, and they quite suffice to satisfy the ordinary examiner, but this is not what I mean by composition. The expression may be perfect because there is next to nothing to express. The clothes may fit because they are cut to fit dummies. The only way in which the master of a large class can learn the bent and bias of individual scholars and train each in the way he should go is by making them reduce their thoughts to writing. But in my opinion this exercise had better be deferred to the last year of preparatory school life, and I believe it would be found that the boy who had been properly practised in oral composition only till his last year would, in the end, outstrip the boy who had been set essays from the knickerbocker stage upwards. We are apt to forget what a strain the mere mechanical exercise of writing puts upon a child's power. His attention is mainly absorbed by pothooks and hangers, capitals and little letters; to spell "school" requires such an effort of memory that when he has succeeded in writing it down correctly he has probably forgotten what he meant to say about it.

I received not long ago from a humble friend of mine, the ostler of a village inn, a letter of thanks, a single page of large round-hand. On next visiting the inn, I learnt from the land lady the genesis of that letter. William, she told me, devoted a whole evening to the composition, and the beads of sweat stood out on his forehead as he wrote. On ending his task, he exclaimed that he'd liefer any day mow two acres of grass than write a letter. Our infant essayists share William's feelings.

The first exercise in composition will naturally be the reproduction of a short story—an anecdote, a fable, a fairy tale. And here it seems to me the danger to be guarded against is the almost verbatim reproduction of what has been read or told. Such an exercise is likely to become a mere test of memory. In order to avoid this danger, I would have the master not

read the story from a book, but tell it, with remarks and questions interspersed. If the story is longer than can be fully reproduced in the allotted time, so much the better. In any case, it is pretty certain to be clipped and curtailed (as in the game of Russian Scandal) by all but the best pupils; but, if it is intentionally made too long for reproduction, it will discriminate the sheep and the goats. The clever boy will seize the points, the stupid boy will remember only the accidentals.

From this it is an easy stage to *précis* writing; and I know of no more useful accomplishment. The boy who can analyse a chapter of history, or give the heads of a lesson that he has heard on some science subject, has mounted the first rung on the ladder of learning.

IMITATION.

As a transition from this to original composition, I would suggest the direct imitation of passages from standard authors with which your pupils have become familiar in their reading-books. Suppose they have been reading the fable of "The Fox and the Grapes": let them imagine a fox eating ripe grapes and telling his brother fox that the grapes are sour, and frame a fable accordingly.

They have just read in their geographies a description of the Ganges: let them write a similiar description of the Thames. Or let them model an account of a cheap jack on Moses and the green spectacles. I need not multiply instances. The point to be aimed at here is to encourage them to reproduce as closely as they can the manner and style of the original. At first much guidance will be needed; but you will be very unlucky if you do not have some boy in your class with an instinct for literary style. Read out his composition. The force of example will work marvels. I won't promise you that the whole class will follow, like Panurge's sheep, but all the better sort will say to themselves, "Tommy Dodd's done the trick, and I don't see why I shouldn't. Anyways I'll have a try." Perhaps this is the most convenient point at which to consider what to my mind is the very crux of the problem, the looking over of composition. It is a problem that I have myself failed to solve quite satisfactorily, even with a class of twenty. You will all agree that unless essays are carefully looked over and marked their profit is very small. But I would go further than this and say that the good they do to the pupil is at least doubled if they can be looked over individually. I know that under the existing circumstances of grammar schools and high schools this is an unattainable ideal. Yet, even if you are teaching a class of forty, you will find it quite possible to pick out half a dozen of the most promising and two or three scapegraces and administer individual blame or praise. The exercises must, of course, be looked over out of school and scored, not necessarily corrected. I have no great belief in correction of this sort. Boys, as a rule, won't read them. If you have your own abbreviated symbols for bad spelling, bad punctuation, bad grammar, bad logic, and so forth, I should think you might polish off a set of forty in a couple of hours or so, adding a word or two at the end by way of final verdict.

And let me implore you from the very first stage not to set too much store on the calligraphy, the punctuation—the anise and cummin of composition.. Let one original remark, one aptly turned sentence, wipe out a multitude of peccadilloes. Mistresses, I have observed, are specially prone to this false estimate on which I am animadverting—the great fault of woman is overconscientiousness. I have seen a bright clever essay marked nought because the young essayist was weak in her spelling and had written over the margin, and a faultily faultless platitudinarian who had crossed her *t*'s and dotted her *i*'s get full marks. We of the male sex, I have no doubt, go into the opposite extreme, and are careless of legibility and tidiness, which are not, indeed, the whole duty of man, but are yet worthy of attention as one of the conveniences and amenities of life. It may, I acknowlege, be said of us: "These things should you have done, and not left the other things undone." Though many of our great authors have written illegibly—most, I think, of those who have been educated at public schools—there is no necessary connexion between genius and illegibility. Yet, because inspectors, examiners, and officials generally attach such undue importance to writing and spelling, I would urge you to overlook such failings and imperfections if the root of the matter is there. Time will correct them; but no time will correct a radical want of thought.

The same remark applies with even more force to the vulgarisms and colloquialisms of which you are sure to get a plentiful crop in your pupil's essays. "A lot of things," "awfully jolly," "a beastly nuisance"—these are the unpardonable sins in the school-ma'am's eyes. At an early stage I should let them pass without comment. They are the child's native language; and to point out that the language he hears at home is not always classical English, and further, that literary language differs from colloquial language—this belongs to a later stage of development. It is a bad bargain if we secure propriety at the expense of naturalness.

Original Composition.

I pass on to the last branch of my subject, the essay proper, or original composition. Originality is a comparative term, and I need hardly premise that it would be absurd to expect originality, in the strict sense of the word, of boys and girls. At best they can only resemble the busy bee, not the spider. They have, so to speak, no entrails as yet to spin from. The materials for the essay must be supplied to them, or you must be assured that they are ready at hand for them to take themselves. Their originality, such as it is, will consist in collecting and arranging the materials. Bearing this in mind, we shall set such subjects as come home to boys' businesses and bosoms—to borrow Bacon's description of this own "Essays." If they are London children, we shall bid them describe the street they live in, the shop they deal at, the omnibus and tramcar, the costermonger and organ-grinder—in brief, the sights and surroundings of their daily life. There can be no lack of descriptive subjects. Only one caution seems to me needed.

Do not seek to pry into a boy's intimacies. Do not, for instance, ask him to describe the house he lives in (a subject, I observe, that inspectors are fond of setting). Very probably he is ashamed of it, and will either write nothing or lie; and I, for one, cannot blame him for lying. I should be chary even of asking him to write on his favourite book or picture or landscape. Boys are shy, much shyer than girls, and to analyse their sentiments, even if they are capable of it, is a process that they hate. *Maxima debetur pueris reverentia*, is true in more senses than was intended by the satirist. On the same principle, I object to one of the regulation forms of composition—a letter. Teach your boys, by all means, the common epistolary forms—how to apply for an appointment or send in an account to a customer. That is a most useful accomplishment. But don't ask them to write to their mother on her birthday, or describe their school life to a brother in Australia. The greater their affection, the stronger their real feelings, the more they will disguise them and take refuge in common-place.

But, though I bar sentiment, I would by no means confine the subjects of essays to description. With boys of sixteen to eighteen I have found, perhaps, the most attractive class of subject—the one which produces the most thoughtful essays—to be moral problems, either actual or historical: "Is it ever right to tell a lie? Under what circumstances is rebellion justifiable? The pros and cons of competition." And I think there would be little difficulty in devising simpler problems of a somewhat similar kind for an earlier age. Civism seems to me to offer a fruitful field to work. A boy of twelve is quite capable of discussing whether Hampden was justified in resisting ship-money, and even of arguing whether a Quaker would be right now in refusing to pay a war tax. With a little guidance, he may even discuss such vexed subjects as capital punishment, universal suffrage, the Poor Law. No matter if the treatment be superficial or partial. It is enough if his interest is aroused—and I am certain that it will be—if he is stimulated to think or to express his thoughts. If it begins to dawn on him that history is nothing but past politics, and politics nothing but history in the making, the discovery will be to him a revelation as startling as that of the Röntgen rays to the man of science.

Nearly every school subject, when the three R's are passed, will lend itself to composition, but not in the same degree. For the higher stages, as I have already hinted, we shall draw mainly on biography and history, including, in the latter, civism. The choice of subject, however, is comparatively unimportant; what is all-important is that, whatever it may be, it should be led up to by the teacher. What I like to do myself is to have a casual talk with the class before I set the essay for the week. I try to put myself at their level of blank ignorance at starting, to show them what it is they have to tackle, to suggest various ways of tackling it, and to convince them that they are not so ignorant as they think, that all they are really called upon to do is to evoke and coordinate their existing knowledge. The aphorism that the composition teacher should never lose sight of is: *Si rem tenes verba*

sequentur—if the idea is firmly and clearly grasped, expression will follow as its shadow. Confused or slip-slop writing is mainly due to muddleheadness. I always tell my pupils first to jot down their ideas in the rough, then from these to construct a skeleton, a scaffolding—"firstly, secondly, thirdly, in conclusion," just like an old-fashioned sermon—and then, and not till then, to begin writing their essay. The less trace there is left of the scaffolding, the better; but this is a counsel of perfection. The first point I look to in an essay is whether it has a backbone. The invertebrate essay, though full of wit and wisdom, only gets a second class.

Further, I would have each pupil for each essay make his own skeleton. The common forms supplied by "the complete essay writer" and similar manuals seem to me positively harmful. They are a bed of Procrustes, and "cabin, crib, confine" all originality.

The same criticism applies in a lesser or greater degree to the numerous attempts that have been made, and are still making, to methodize instruction in English composition I take Bain's book as one of the most popular. He starts off with Figures of Speech, explains and illustrates Personification, Metonomy, Synecdoche, Apostrophe, and so forth. Now, I hold that a knowledge of these figures, or at least of the more common of them, such as simile and metaphor, is almost essential for a proper appreciation of poetry, but I confidently maintain that it will not help a boy one whit towards writing English prose. The teacher may, indeed, peruse it with profit and gain very useful hints, enabling him to point out to a pupil where his style is defective or faulty, but to make the matter follow the manner, to demand an essay illustrative of hyperbole or innuendo, the pathetic or the ludicrous, is to put the cart before the horse.

There are two or three other books I should like to mention, in case you have not come across them, that I have myself found helpful. Abbott's "How to Write Clearly" you probably know. He, unlike Bain, practises what he preaches, and had had experience in teaching boys, which, I believe, Bain had not. Another less-known book is Dr. Hodgson's "Common Errors in English." It is a wonderful *répertoire* of the slips to which all of us are liable, and it is delightful to catch the *Saturday Review* tripping—the *Saturday Review* of the brothers Stephens, of Freeman and Saunders, not the financial organ of to-day—and see it hoist by its own petard. To give a selection of these solecisms to be corrected will be a good occasional exercise. Legouve's "L'Art de la Lecture" is another delightful little book, though it refers only indirectly to my subject.

Paraphrase and Verse.

Lastly, I would discuss very briefly two subsidiary forms of composition. On paraphrase teachers are divided into two opposing camps, and when such past masters as Dr. Fitch and Professor Laurie hold diametrically opposite views, it would be presumptuous in me to dogmatize. I can only say that in my own experience I have found it a most useful exercise. Its primary use

is to show that the pupil understands the full meaning of a passage. It reveals vulgar errors and misconceptions as nothing else can. For instance, I remember setting to the Marlborough Sixth Form a paraphrase of the "In Memoriam" stanzas beginning: "So careful of the type," and thus discovering that one youth, by no means generally stupid, thought that Tennyson was comparing Nature to a compositor in a printing office. This, however, is an incidental advantage, and its main use from our present point of view is to teach boys to express the same thought in different ways, to turn poetry into prose, to bring out latent metaphors, to simplify an involved period, and so forth. The usual objection raised against it is that it involves a change from good to less good, that it is a degradation, a profanation of a great author. Is it not arguable, on the other hand, that the very imperfection of the copy serves to emphasise the perfection of the original? No one objects to an art student's being set to copy in black and white an antique statue: why should we object to a literary student's being set to reproduce in prose a speech from Shakepeare's plays or a sonnet of Milton's? Of course judgment is needed in choosing fitting passages. A prose rendering of "God made Himself an awful rose of dawn," would be a *réductio ad absurdum.* I may add that the exercise of paraphrasing seems to me especially valuable in schools where no foreign language is taught, as a substitute for the most stimulating gymnastic of translation.

There is yet another form of composition which I commend with some diffidence, and only as an occasional extra—English verse. I should not have ventured to suggest so bold an experiment had I not known that, in the case of one school at least, it had been tried successfully. Most of you will have heard of an experimental school which was carried on by Mr. Sargeant, a Toynbee Hall resident, and some of you must have seen that most original volume that he published, entitled, "Specimens of Work in an Elementary School." I wish that I had time to read to you some of the little essays which seem to me models of what a master should aim at producing from the more intelligent of his pupils, but I must quote a small poem written by a girl of thirteen:—

Come join us in our merry play,
Don't stay indoors this sunny day
Before the fire to pout.
Lessons are done and put away,
Come help to pick the scented may;
Spring calls the children out.

The lines are childish—*non res sed spes*—but, to my mind, they are proof, and I think you will agree with me, that the girl who wrote them had been truly educated, that she had been trained to feel Wordsworth's "impulse from a vernal wood," and to express her feelings. The practice of Latin verse-making still absorbs more time in our public schools than history and geography combined, and is still vigorously defended on the ground that it enables boys to appreciate the beauties of Latin poetry, and that boys enjoy

the exercise. Without endorsing such special pleading in favour of a superstitious observance handed down to us from the Renaissance, I may fairly urge that all the advantages claimed for Latin verse-making apply equally to the composition of English poetry, while the latter exercise is not open to the charge of unreality and learned trifling.

One word in conclusion. *Tel maître tel élève.* If you yourselves have drunk deep at the well of English undefiled, if you speak the tongue that Shakespeare spoke, if you have learnt to appreciate the grand style whose lineaments Matthew Arnold portrayed, be assured that your pupils will learn your great language, catch your clear accents, make you their pattern. Without this inward grace, models, methods, rules, are but sounding brass and a tinkling cymbal. The most successful teacher of composition in our generation was, by universal testimony, the late master of Balliol, but when his pupils are questioned as to Jowett's methods they can tell us little or nothing. The master, they say, had no secret; he did not teach us composition, but he inspired.—*The Educational Times* (*London*).

THE REVIEWING OF EDUCATIONAL BOOKS.

By a Writer of Educational Books and Reviews.

Most of the authors who have been recently writing in the *Westminster Gazette* under the heading of "Reviewers Reviewed" belong to what Walter Pater called "the literature of imagination," as distinguished from the "literature of knowledge." The two schools cannot be wholly kept distinct, and no specimen of one school can, perhaps, be perfect, or approach perfection, without betraying some of the leading virtues that our literary critic may assign as "proper to the other." None the less, I propose, as far as possible, to gather from my experience as author and critic, in one particular department of the "literature of knowledge," what seem to me the most ordinary faults in reviewers, and what I venture to think are realizable ideals of educational criticism.

1. *Some grievances of the reviewed.*—"Educational" books receive notices both from educational papers and from ordinary journals. Each of these classes can be arranged roughly in two divisions, and the separation could be done with tolerable accuracy by a mere inspection of one or two numbers of paper. There are those papers that give evidence of taking some pains with even short notices and sometimes in the space of a single line betray the pen of the specialist; while, on the other hand, there are those that show unmistakably that—whether from poverty or from indifference or from mere meanness—they "do their washing at home"—that, in fact, the bulk of the "literary matter" is

done by the Office Boy. The notes of such papers, in the educational press, are indiscriminate eulogy, which strongly suggests an oblique glance on the possibility of advertisements, and in the general press a careless transcription of the title-page, and a liberal "conveyance" of the preface.

On looking through a bundle of such notices I fail to find any great grievance for the author. The notices amuse far more than they irritate; the mistakes are more silly than mischievous. I have no call to complain because the daily newspaper, like the public for which it caters, gives more attention to the lady novelist's last great book, entitled "The latest Thing in Soaps: A Romance of Primitive Christianity," than to my own slim synopsis of "Algebraic Signs," which probably took twice as many years to perfect as it took the lady novelist hours to dictate her "stirring romance." After all the publisher gets his advertisement gratuitously and is content.

The educational author has, I think, much more to grumble about in the case of the better-class papers. They profess and have the means to do well, and, one would imagine, have a material interest in doing their best. At the outset the educational writer suffers from the fact that, as education is a highly complex thing, whose methods and ideals require infinite modification to suit various types of learners, the earnest reviewer often measures every educational book by one fixed standard. There is the worshipper of professionalism, who knows that every book bearing the name of a professor at some University or a fellow of some college on its title-page must be "truly educational"; it may be a reprint of newspaper reports of a series of lectures, or a hasty concoction of lecture-notes written out to the proper length for insertion in a "series of manuals;" it may be devoid of a table of contents, give no sign of proof-reading, and have an index which is such an imposture that it deserves to be burned by the common hangman—but "Professor Prize-Winner is a well-known authority on the subject, and his statements are unimpeachable."

Then there is the Specialist, with Broad Views on Education, who expects every national school teacher to know and teach as much as he knows on his own topic (which would be useless), and as much as he himself *doesn't* know on other things (which would be impossible). There is the glorifier of self-help, who is "proud to say that he taught himself all he knows about the mathematics" (a welcome compliment to the professional teacher), and then pelts you with all manner of hard words because you try to indicate the chief points of a subject in a clear way ("Much better to let the fellow stumble along for himself; there is no

royal road to learning," he growls), and to indicate to the teacher the best sources whence he may quarry further information for his pupils. Then there is the person who believes in "the voice of the living teacher." Such a reviewer not only resents every attempt to supply information to juveniles in book-form, as a usurpation of the functions of the instructor by word of mouth, but also extends his condemnation to books that seek to help the much-beset class teacher in the difficult work of selecting and sorting the matter which *must* be taught, while leaving him full liberty to impart these materials in whatever way and to whatever extent the master, knowing his pupils' minds, may think most "truly educative."

Lastly, there is the critic who cannot sniff "cram" or "examination" without running amok. Perhaps he is the most dangerous variety of the ordinary reviewer, for he is probably the utterer of that lie which is half a truth. He sees, quite truly, "that the trail of the examination system is over everything;" and he may know—perhaps by experience—that, in cases where the need of passing a certain examination comes into conflict with considerations of what he loves to call "culture," the latter is fairly sure to go to the wall. His righteous indignation overflows into condemnation of even the defensible results of the examination system. If, in the belief that the average boy turned loose to graze in Shakespeare would either prefer to play and sleep, or else to cull the rankest herbs, you restrict his attention during school-hours for a year to the systematic study of one particular play, you are accused of "narrowing the boy's outlook" (the plays I "got up" that way at school are the only portions of Shakespeare which form a living part of my thought to day); and, if you give your young student of Shakespeare the chief facts of his life and of the play under consideration in a short memorizible form—unadulterated with the conjectures justifiably dear to Shakespearean specialists of an older growth—you are accused of "pure cram." What seems to annoy the ordinary reviewer—especially in the general press—is anything approaching organization, any endeavour to prevent by all available means the continuance of current confusions of thought (*e.g.*, "monarch" for "king," "weight" for "mass"). Slovenly arrangement, lack of precision, change of words for the sake of literary effect, regardless of the educational utility of a scientific terminology—all these faults go for nothing so long as a book is pleasant reading. It is submitted that capacity to keep a book-worn reviewer awake, to compel him to take the trouble to cut the pages, may be excellent in a novel, but is not the prime necessity of an educational book.

2. *Some ideals attainable by educational reviewers.*—The reviewer

owes a word to the author and to the publisher. He should indicate the scope of the book, for what class of readers it is intended, whether he considers that the book is fitted for the purpose in hand, and also he may usefully add a word or two of comparison with existing books on the same lines—if he happen to have a working acquaintance with them. He is, of course, at liberty to say whether he considers a book to be needed, or aims at what he holds to be a right end; but it seems to me that his function as taster is to estimate the flavour of the tea, rather than to dilate on the nutritive qualities of tea in general. If I write "An Elementary Kamschatkan Reader: For Use in Secondary Schools," the reviewer should devote more of his space to answering the question whether it is a good reader in that language than to saying smart things about my folly in compiling a book for which there is likely to be so small a demand. That is my affair and the buyer's.

These points may seem rather rudimentary, but it is surprising how much they are ignored. For instance, reviews of historical novels —which, in some folks' opinion, stand on the borderland of the educational—quite as often as not omit to mention with what period the novel is concerned. Yet, surely, if these points be neglected, no review or notice can claim to be adequate. If journalism has any ethics, the short notice, when it goes beyond the mere courteous acknowledgment of the receipt of the book, should be primarily a record of such facts, not a peg on which to hang an epigram. "An unintelligent and unintelligible mis-statement of the negligible and the to-be-neglected"—a notice saying that and nothing more strikes me as cheap and nasty, and makes me think of taking in another paper insead of the old regular *Diurnal and Sempiternal Decisor.*

The short notice, then, is mainly a matter of reporting. It is only in longer notice or review that there begins to be room for the literary display of style. Even here the irreducible minimum indicated above should not, in justice to author and publisher, be crowded out. In making additions to this minimum, the reviewer will vary, according to the policy of his editor, to his own tastes, and to the supposed tastes of readers of the paper. The difference will lie mainly in this last. I suppose all admit that an ordinary newspaper *must* be, and that an educational paper *can't* be, readable. Grant that, and it follows, I imagine, that the person who reviews educational works for the general press must do his best to be interesting to the public which buys his paper, and that he who reviews such works for the educational press had best try to be as useful as he can without being needlessly dull. The man in the street has different requirements from the practical teacher: the

one wants something that he can read in the train on his way to business, and retail with the air of an expert; while the other wants to know whether this book is one to introduce to his school or to his pupils, or, it may be, whether it will be useful to himself in teaching. Can we not say, in general, that the everyday reviewer would do well to give his space to the subject-matter of the book, while the educational reviewer devotes himself more to the actual contents of the book in hand?—*The Journal of Education* (*London.*)

REVIEWS OF EDUCATIONAL PERIODICALS.

The Educational Review (London) for May opens with a biography of the late Miss Shirreff, who died on the 20th March last at the advanced age of eighty-two. The deceased lady was one of the pioneers of the movement for the education of women. The work of her life was contemporaneous with the reign of the Queen and is therefore at the present time of more than ordinary interest. Born in 1814 in London, the daughter of Rear-Admiral Shirreff, she grew up without many of the advantages which her efforts have obtained for her more modern sisters. At the age of eleven, she was sent to a boarding school in France but the severe regimè of the institution broke down her health and she was removed. Her subsequent education was then practically in her own hands and how well she used her time can only be inferred from her numerous writings. Her first literary effort was made at the age of thirteen, she and her sister bringing out "Letters from Spain and Barbary." This work the sisters were able to perform satisfactorily owing to their father having been given a command at Gibraltar. The letters were published in book form by Hatchard and enjoyed considerable popularity at the time. In 1841 Miss Shirreff (in conjunction with her sister, Mrs. Grey) published a novel "Passion and Principle," in which the faults of women's education and place in society were dwelt upon. Later on Miss Shirreff (again in conjunction with Mrs. Grey) brought out "Thoughts on Self-Culture," which is described by the biographer as "a very remarkable book, and one which, to our regret, is not known to the present generation." The work went through two editions. In 1858 Miss Shirreff, this time alone, published "Intellectual Education." A second edition of this work was brought out in the following year. The book opened with a statement of general principles and proceeded to discuss women's education in the light of these. Those

who hold that education should be attractive and alluring, would not find the book on their side. It will no doubt interest our readers to hear that a lady, who took such a prominent position as regards the kindergarten system and who was one of the foundresses of the Froebel Society, should hold "that intellectual progress is only made by means of intellectual work often hard and distasteful in itself; that knowledge is valueless unless used as a means to the systematic and harmonious development of the whole moral and intellectual nature. At the present time we are in some danger of forgetting this; the general insistence on pleasure as a chief factor in education is a sign of the times which may be ominous unless we only call that pleasure which appeals to and develops our highest nature."

In 1869, Miss Shirreff was for a term Mistress of Hitchin College. The Women's Education Union was a movement which attracted her interest. The journal of the Union was edited by Miss Shirreff (in conjunction with Mr. George Bartley), most of the educational articles being contributed by her. But the later work of her life was that by which Miss Shirreff would probably have cared most to be remembered. It was her work for the Kindergarten system. In conjunction with the late Miss Doreck, Miss Shirreff founded the Froebel Society in 1875 and from that time gave herself mainly to studying and promoting Froebel's system. In December 1875, she was elected President in succession to Miss Doreck and held the post until her death. Numerous writings testify to her intense interest in the Society and in the cause it championed. Of these, perhaps, the best known was the "Life of Froebel," but many of her papers read from time to time at meetings of the Society were highly valuable. Written with sound and wide knowledge of her theory, they were a most welcome contrast by their breadth and elevation of tone to much of what constitutes the literature of the Kindergarten. The pamphlet called "The New Education" was a most valuable statement of Froebel's real claims: it is out of print, but it might usefully be mastered by those who either consider Froebel in isolation or who regard him merely as the contriver of toys and the prophet of games.

No notice of Miss Shirreff's educational work would be complete, if all mention of her care for professional training for teachers were omitted. She worked hard to the last to establish it, and was from the first a member of the Council of the Teachers' Training and Registration Society. The Maria Grey College, called after her sister Mrs. Wm. Grey, owes much to her generous help and, with the Froebel Society, may be said to have been her chief educational interest in later years.

The biography is illustated by a likeness of Miss Shirreff and is written in a most sympathetic manner.

The second article is an instructive one on "The use and abuse of adjectives" which concludes as follows:—

"Some adjectives are subjective, and others objective, and the delicacy of the meaning is spoilt if they are used indiscriminately. Such words as delightful, charming, enchanting, repulsive, loathsome, ungenial, congenial, and a host of similar ones are subjective, and signify the feeling of the person using them; it is possible that the objects they are used to qualify might produce an opposite impression upon another.

Beautiful, ugly, heroic, ignoble, infamous, illustrious are objective adjectives, and refer exclusively to qualities inherent in the object they are employed to qualify.

Some adjectives have a double significance: squalid implies meanness combined with dirt; miserable, wretchedness *plus* poverty; vulgar, commonness combined with bad taste; artistic, beauty and grace.

It is only by the correct use of adjectives that every sentence can be made to *tell*, each nuance reflected, each quality given its full and proper *value*. No word should be used *without which* the sentence would be complete—that is a commonplace; but further, no adjective should be used whose exact meaning could be conveyed by another. Only by this fineness of perception, rare as a perfect ear for music, can the harmony of language be appreciated or conveyed."

The article, headed "Grave Charges against the Private Schools' Association" will no doubt be read with interest in England but probably not in India. "The Age of Wordsworth" (by Herford) and "A History of Elementary Mathematics" (by Cajori) are reviewed at length while a number of shorter reviews of recently published works also appear. A short report of "The Teachers' Guild Conference," held at Norwich at the end of April, is given. The usual notes &c. are to be found. The number under review is one of exceptional interest.

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The May number of the *Journal of Education* (London) provides a good deal of reading. A full report of the "Norwich Conference of the Teachers' Guild," referred to above is given. The article "The Reviewing of Educational Books" is extracted elsewhere and we commend its perusal to Indian reviewers. The first of the three lectures, delivered by Professor Rein of Jena at the Cambridge summer meeting last year, is reported. A short and smart leader on "Educationists and the Critics" is a comment on twenty-seven pages of "this nonsense on the subject of education," which the Editor of the *Quarterly Review* inflicted on his readers. A large number of interesting notes, letters, reviews &c. are included in the May number, which is quite up to the level of its predecessors.

The *Educational Times* (London) for May fully bears out its claim to be considered the organ of the College of Preceptors. The prize distribution on 31st March of the College of Preceptors is fully reported, the speech of the Chairman, the Right Hon'ble James Bryce being interesting reading. An instructive lecture on "The Teaching of English Composition" by Mr. Francis Storr, B. A., delivered at the meeting of the College of Preceptors, is extracted elsewhere. An article on "Elementary Schools in Australia" is interesting and shows the difficulties under which elementary education labours in that colony. An article "Titular Degrees for Women" discusses the recent proposal of the Cambridge Syndicate for conferring titular degrees on women from both sides of the question. There are numerous notes, reviews &c. included in the number.

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We are in receipt of the following numbers of the *Journal of Education* (Boston and Chicago) :—April 8th, 15th, 22nd and 29th. The first of these contains an article on "Religious Instruction in Schools," which does not bring matters much nearer to us than they are at present. An excellent article on "Cattle" under "Commercial and Industrial Geography" is contributed by Winship. An interesting sketch "Longfellow and his home" is given. In the issue of 15th April "Iron and Steel" is the subject under "Commercial and Industrial Geography." The kinds of iron, their uses, &c., are dealt with in a manner which a child of twelve could understand. The next issue discusses "Granite and Marble" under the same Geographical heading and this subject is equally well handled, though the author has entered rather too largely into statistics. The last number before us, which includes a pretty painted picture, commences "Some Animals of the Northern Hemisphere" and the beaver is chosen to start with. The article is well illustrated.

We cannot refrain from expressing an opinion that the weekly journal under review should be taken in by elementary schools in India. It can be read by both children and their teachers with advantage. The paper is published at Boston and the subscription is only two-and-a-half dollars per annum.

EDUCATIONAL NOTES.

Miss Hughes of the Teachers' College, Cambridge, urges that when Inspectors of Secondary Schools are chosen, they should be experts of both sexes, and that women Inspectors should not be limited to female schools.

It has been decided to transfer the administration of the grants to schools in Scotland for Science and Art to the Scotch Education Department. The details of the transfer will be matter of departmental arrangement.

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"Kadambari", a Sanskrit novel, has been translated into English by Miss C. M. Ridding, formerly scholar of Girton College, Cambridge.

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The Imperial Institute has offered three scholarships, tenable for two years, for proficiency in Tamil, Persian and Chinese, or in the absence of candidates for any one of these languages, in Guzarati. The scholarships will be awarded in July next

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The new hostel for women students at Bangor University College is nearing completion, and will be opened for the reception of students in October next.

* * *

The Chancellor of the University of Cambridge has issued the following statement concerning the financial condition and requirements of the University, and appeals to the cordial support of the public in the matter. We were not aware that the model University was in so bad a crisis as regards its finance.

"On February 4th last, a largely attended meeting was held at Trinity College, presided over by the Vice-Chancellor, to which all the principal officers of the University, as well as representatives of the several Colleges, were invited. A resolution was passed to the effect that steps should be taken to lay a statement concerning the financial condition and requirements of the University before members of the University and the public generally, and a Committee was appointed to draw up the proposed statement and to arrange for its circulation and publication.

The statement is therefore made on behalf of a very large number of those who are conducting the practical educational work of the University, and, though it does not emanate from the Senate, its authority is unquestionable.

It will be observed that no suggestion is made for any immediate appeal to the liberality of the public by the ordinary methods; and it is hoped that when the true position of the resources of the University in relation to its increased duties is fully known, means may be found by which its endowments may be again raised to the level of its present requirements."

* * *

At the last Christmas examination held by the College of Preceptors in the Theory and Practice of Teaching, 124 candidates obtained diplomas out of 342 that appeared for it.

A new school will be opened this month in New South Wales for the training of Secondary teachers, and two ladies (Miss Newcomb and Miss M. Hodge) from the Maria Grey Training College, Scotland, have been chosen for this important work.

* * *

By a royal decree transmitted by Her Majesty's Ambassador in Madrid, the Spanish Universities and other educational institutions under State control have been thrown open to foreigners. Under this ordinance, they are admitted to the right of matriculation, study, and examination in all educational establishments under the Spanish Government, and are entitled to take degrees at the Universities.

* * *

A strange appeal has been made to the Minister of Education by school boys in Paris. They desire that they be allowed the use of school court yards for smoking, on the ground that they are better suited for this purpose than holes and corners in the town.

* * *

The Guildhall School of Music is to be considerably enlarged at a cost of £20,500.

* * *

The National Union of Teachers has prosecuted a woman at Tynemouth and another at Newcastle for having committed assaults upon teachers. In each case the woman was the mother of a child who had been punished at school. In the Tynemouth case the defendant was fined 20*s*., or in default a month's imprisonment, and in the Newcastle case a fine of 10*s*. and costs was imposed.

* * *

Two Japanese ladies have qualified as doctors, having passed out of the Cincinnati Laure Memorial Medical College after taking a four years' course.

* * *

The following are the rules for the award of Vidyasagara Scholarships.

1. Vidyasagara Scholarships of Rs. 5 each per mensem, tenable for two years, shall be distributed in the following manner:— 20 in Bengal; 15 in N.-W. P. and Oudh; 12 in the Punjab; 15 in Madras; 15 in Bombay and 4 in Sind; 5 in the Central Provinces; 4 in Central India; 5 in Assam and Burmah.

These scholarships are tenable along with Government or any other scholarships on the conditions of good conduct and satisfactory progress.

2. A public competitive examination of candidates who intend to

compete for the scholarships, shall be held throughout India on the third Wednesday in July of each year. A High School, recognised by any of the Indian Universities, shall constitute a centre of examination.

3. Any person, male or female, without any distinction of caste, creed or colour, belonging to a High School, may be admitted to the examination. Applications and fees, accompanied by certificates of good conduct from the Heads of Schools, must reach the Manager at least six weeks before the commencement of the examination.

4. No candidate shall be allowed to present himself for examination unless his name has been on the rolls of his school during six out of the twelve months preceding the examintaion.

5. The examination shall be conducted by means of question papers, the same questions being set in every place where the examination is held.

6. There shall be two sets of papers—the first paper to contain questions of a general nature, *i., e.*, explanation of passages in English of ordinary difficulty, parsing, analysis, direct and indirect narration, the correcting of sentences in which common blunders occur, and a simple essay, and also questions on grammar and idiom; the second paper to contain English passages for translation into the vernacular of the candidate, and also the subject for an essay in the vernacular connected with the History of India, with special reference to the Hindu period from the Aryan Invasion to the Mahomedan Invasion. Candidates other than natives of India whose vernacular is English, may substitute for an Indian Vernacular any of the following:—Latin, German, or French.

7. The following value shall be attached to the subjects of examination: English, 150; Vernacular, 50; History, 100. The merit of the candidates examined shall be estimated by marks, and the number opposite to each subject denotes the greatest number of marks that can be obtained in respect of it. The minimum number of marks required to pass the examination shall be *thirty-three* per cent. in English, and *twenty-five* per cent. in each of the other subjects. Marks shall be deducted for *bad spelling* and *bad writing*.

8. The marks obtained by each candidate who passes, will be added up, and the names of those who have obtained the highest marks will be set forth in order of merit, and such candidates shall be selected for the scholarships.

9. Every candidate at the time of applying shall pay a fee of two rupees. The balance after payment of reasonable expenses (stationery, &c.,) will go as remuneration to the examiners. The fee must be paid in cash, or by a Post Office Order. Postage or Courtfee Stamps will

not be accepted. A candidate, who fails to pass shall not be entitled to claim a refund of the fee.

10. Six weeks after the commencement of the examination, a list of the successful candidates shall be published.

* * *

From Geneva comes the latest wonder of electricity. Professor Franz Duffand, of the Geneva University, has constructed an apparatus which he calls the microphonograph. The faintest sound by means of it can be rendered distinctly audible; the human voice can be magnified to the pitch of thunder. Experiments are now being made in the physiological laboratory of the Sorbonne, in Paris, and the practical use to which the apparatus may be applied are numerous and wonderful. It consists of two parts; a phonographic apparatus which receives and fixes the sounds to be magnified, and the sound intensifier which repeats them with an enormous increase of power. It will, for instance, be possible to record and to manifest accurately the variations and irregularities of the heart's action. To that end the microphone is simply laid against the breast, and the rhythm and strength of the heart's palpitations are recorded. Professor Duffand has thus rendered audible to a large audience the heart-beat of an orator when he begins to speak, or of a singer when he begins to sing. So, when a reciter reads a pathetic story, or an actor delivers a passionate speech, the hearts of the hearers beat quicker and with greater strength. The microphonograph records all this, and repeats clearly and accurately the sounds which had hitherto been the secret of every man's breast. The discoverer thinks that even the sound of thought can be detected. A practical result of sound magnifying is that deaf and dumb people can be made to hear by placing the apparatus to the ears; while its action upon the ear, it is thought, may probably be of a radically beneficial character.

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The degree of Doctor of Laws has been conferred by the Queen's University, Kingston, on the Countess of Aberdeen. She is the first woman in Canada who has received this honour.

* * *

The Government High Schools in Natal are closed against Indian students, no matter what their position is. This is a real hardship, and we trust that early measures will be taken by the authorities concerned to set matters right.

* * *

Milton's "Paradise Lost" has been translated in Tamil Viruttam, by Mr. V. P. Subrahmanya Mudali, of the Madras Civil Veterinary Department.

Lady Elgin has signified her intention of giving £100 in order to found a scholarship to be named the "Diamond Jubilee scholarship" in honour of the Queen's commemoration. This will be the seventh scholarship open to female Medical Students to pursue their studies at home.

INDIAN NEWS.

BENGAL.

Babu Bijoy Gopal Mukerjee is appointed to act as a Professor in the Rajshahi College.

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Mrs. E. C. W. Standsbury, Head-Mistress of the Eden Female School, Dacca, is allowed furlough for seven months and nine days.

* * *

Miss Saralabala Rakshit, B.A., is appointed to act as Head Mistress of the Eden Female School, Dacca.

* * *

Babu Mathura Nath Chattopadhyaya, Additional Assistant Inspector of Schools, Dacca, is appointed to be Assistant Inspector of Schools Dacca.

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Mr. Mukerji is appointed to act as a Professor in the Presidency College, during the absence on leave of Mr. A. Pedler.

* * *

Mr. W. Billing, Principal, Krishnagar College, is appointed to act as Principal of the Hughli College, during the absence on deputation of Mr. W. Booth.

* * *

Mr. W. B. Livingstone, Principal, Rajshahi College, is appointed to act as Principal of the Krishnagar College.

* * *

Babu Kumudini Kanta Banerji, Professor, Rajshahi College, is appointed to act as Principal of that institution.

* * *

His Highness the Maharaja of Independent Tipperah has given Rs. 2,500 to the Building Fund of the City College, Calcutta, of which Sir Alexander Mackenzie is the Patron.

Mr. H. H. Hayden, of the Geological Survey of India, has been appointed Professor of Geology in the Presidency College, Calcutta, *vice* Mr. Holland.

* * *

The Moslem Girls' Madrassa which was opened at 40, Baniapooker lane, Calcutta, on the 29th January last by Lady Mackenzie, has since then been under the management of a committee of which the Hon'ble Prince Mohamed Bukhtyar Shah, who takes a warm interest in its welfare and management, is the President. Lady Makenzie has very kindly consented to become the Patroness of the Madrassa and Her Highness the Nawab Begum of Murshidabad, whose charity is so well known, has very generously undertaken to pay Rs. 150 per month towards its expenses. H. H. the Nawab Bahadur of Murshidabad and Nawab Ahsimollah Bahadur of Dacca have both given donations of Rs. 1,000 each, the latter also supplementing the gift with a monthly subscription of Rs. 25. The institution has 34 girls on its rolls at present and this number is daily increasing. They are at present taught free. We are requested to state that subscriptions and donations should be sent direct to the President at Tallygunge, Calcutta.

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Babu Kali Churn Bannerji has been nominated as a candidate for the University seat on the Bengal Legislative Council by Sir Romesh Chunder Mitter.

* * *

Kumar Kedar Prassanna Lahiri, of Kassimpore, in the District of Rajshahye, has subscribed Rs. 15,000 towards the funds of an Industrial School to be started at Rampore Beauleah, the sudder station of the District, in commemoration of the Diamond Jubilee.

* * *

The following gentlemen are the members of the committee appointed to prepare the Jubilee address on behalf of the University. The Hon'ble Justice Guru Dass Banerjee, Baboo Nagendro Nath Ghose, Mr. K. C. Banerjee, Fr. Lafont, Dr. K. S. Macdonald, Moulvi Mahomed Yusuf, and the Vice-Chairman.

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In the last First-in-Arts examination of the Calcutta University, 1,131 candidates passed (41 in the first division, 220 in the second and 870 in the third).

* * *

Government has been pleased to increase its annual grant to the Calcutta Deaf and Dumb School from Rs. 1,500 to Rs. 1,800.

Surg.-Lieut.-Colonel Ranking, who has been appointed to represent the Calcutta University at the ensuing Congress of Orientalists, leaves India at the end of the current month.

* * *

The College Council of the Metropolitan Institution, Calcutta, has established the following Scholarships, namely, (*a*) Two Scholarships, one of Rs. 30 and the other of Rs. 25 per mensem, tenable for one year, by students who having attended at least one year's course of lectures in the Institution, appear in the B.A. Examination, stand highest amongst those students of the Institution who pass with honours, and study in the Institution for the M. A. degree. (*b*) One Scholarship of Rs. 15 per mensem tenable for two years, by a student who having attended at least one year's course of lectures in the Institution, appears in the F.A. Examination, stands highest amongst those Students of the Institution who pass in the first division, and continues to study in the Institution. The first award of the Scholarships will be made with reference to the result of the Examination of 1898.

* * *

The following is the text of the address from the Calcutta University to the Queen-Empress on the occasion of the "Diamond Jubilee":—

We, the Senate of the University of Calcutta, venture to approach your Majesty with our humble and loyal congratulations on the completion of the sixtieth year of your Majesty's reign.

Among the many blessings to the people of India, which have characterised your Majesty's gracious rule, the progress of education calls for special reference at our hands. The introduction of high English education into the country practically dates from the commencement of your Majesty's reign and the developments since achieved, in every direction, have exceeded all expectations. It is our pride to have materially contributed to the accomplishment of these results.

This University was established in the year 1857, for the better encouragement of your Majesty's subjects of all classes and denominations in the pursuit of a regular and liberal course of education. The history of the University during these forty years bears ample testimony that this great object has been attained. In active connection with it, are 125 Colleges and 586 Schools, spread over Bengal, Assam, Burmah, Ceylon, Nepal, the Central India States, the Central Provinces, the North-West Provinces and Oudh, and the Punjab. These send up to its examinations Hindoos, Mahomedans, Christians, Brahmans, Jews, Parsees, Buddhists, and others, with such varying vernaculars as

Bengalee, Armenian, Assamese, Burmese, Hindee, Khassta, Mahrathi, Parbatis, Tamil, Telugu, Urdu, Uriya, and English. There were in this, the 60th year of your Majesty's reign, 5,934 candidates for Matriculation, against 244 in 1857, and 1,658 for the B.A. degree, against 13 in 1858; while from a small beginning of 13 its gradutes now number nearly 10,000, His Royal Highness the Prince of Wales heading the list of its Honorary Doctors in Law.

This University has also been an important factor in the development of the higher education of women. It is less than twenty years since its examinations were opened to female candidates, and already associated with it are three Ladies' Colleges and twenty Girls'.schools, from which about a hundred candidates appear each year at its examinations, while for one lady-matriculate in 1879 there are now no fewer than twenty-five lady-graduates, one of whom, not long ago, won its highest competitive prize.

Thus has this University succeeded in effectually stimulating a healthy desire for a regular and liberal course of education. Those classes of your Majesty's subjects who seemed for a time to hold back, are now as anxious as others to come forward, and even the aboriginal tribes are beginning to appreciate the benefits of education. And so, the English language has taken root as one of the institutions of the country, operating perhaps more than any other, as a bond of union between the various races inhabiting this portion of your Majesty's Empire.

While mainly concerned with the promotion of Western learning, this University has exerted no little influence in reviving the study of Eastern classics, and the general diffusion of Sanskrit learning now stands out as one of the most prominent features in the progress of education.

In these, as in other respects, your Majesty's reign marks an epoch in the history of India's advance. Our heart's desire and prayer is that your Majesty may be blessed with many more years of health, happiness, and prosperity, so that this University may have the privilege of witnessing yet more remarkable developments under your Majesty's rule.

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The Syndicate of the Calcutta University has accorded its sanction to placing in the Senate Hall the bust of the late Dr. Rajandralala Mitra, C.I.E.

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The Syndicate of the Calcutta University has decided to set alternative papers in Sanskrit and Indian History for students who completed

their studies last year, in view of the numerous changes that will be made in those subjects at the next examination.

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We observe, from the appointments made in Bengal under the new reorganized Educational Service, that most of the well-paid posts of Principals and Professors in the Mofussil Colleges have been conferred on Natives. As an instance we will refer to Orissa, where the Inspector of Schools is a native, the Principal of the College is a native and the Professors in the College are all natives.

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From an alphabetical list published of the graduates of the Calcutta University from 1858 to 1881, we find that 1,712 candidates took the degree during that period, of whom 36 were Muhammadans, 47 were whites and 1,629 were Hindus.

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More than 600 candidates have passed the recent Mookhtarship examination.

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It having come to the notice of the Director of Public Instruction that students in High Schools sometimes tamper with their transfer certificates more particularly as regards the class in which they were reading and their ages, he has requested the Head Masters of High Schools in future to make such entries in the transfer certificates both in words and in figures.

BOMBAY.

Mr. Palanjee Adarjee Mistri, Head Master, Kurrachee High School, has been granted privilege leave for two months, commencing from the 2nd April, 1897.

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Rao Saheb Chaturbhuj Lalchand Ojha is appointed to be Deputy Educational Inspector, Shikarpore, *vice* Rao Saheb Pritamdas Kismatrai Tolani, deceased.

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Mr. T. B. Fry reverts to his appointment as Professor of Forestry, College of Science, Poona, from the date of the Hon'ble Mr. A. T. Shuttleworth's taking up his permanent appointment as Conservator of Forests, Central Circle, on finishing the special duty on which he is deputed.

* * *

Surgeon-Major W. K. Hatch, Principal of the Grant Medical College, Bombay, left for home on Saturday the 8th May 1897 in the *Ganges*,

We are glad to find that 11 candidates presented themselves for the examinations conducted by the Victoria Jubilee Technical Institute on behalf of the City and Guilds of London Institute in Cotton Spinning, Electric Light and Power, and Mechanical Engineering. 18 candidates also appeared for the examinations in Electric Light and Power Transmission, Electro Metallurgy, Mechanical Engineering (part II.) and Mine Surveying according to the ordinary and honors grades.

* * *

The report of the Municipal Schools, Broach, read on the occasion of the prize distribution, held last month under the presidency of Mr. R. E. Candy, I.C.E, Collector, shows that there were in the town seven Boys' schools, three Girls' schools, and one Urdu school, and one Night school. The number of boys and girls receiving instruction in these schools showed an increase of 188. The most noticeable features of the schools were an increase in the number of trained masters and mistresses; the prosperity of the Night school for imparting practical knowledge; the foundation and success of the "Teachers' Union." The attention of the meeting was drawn to the introduction of the Kindergarten system in the Primary schools. It was also pointed out that the Headmaster of School No. 3 and the Munshi of the Urdu School had started a small Museum containing various articles useful at the time of giving "Object-lessons."

* * *

It is understood that the Rev. D. Mackichan, Principal of Wilson College, Bombay, who during Lord Reay's time was Vice-Chancellor of the University is a candidate for the vacant University seat in the Legislative Council, the other candidates being Mr. Chandravarkar and Dr. Bhalchandra.

* * *

His Excellency the Governor in Council has been pleased to appoint the following gentlemen to be Fellows of the Bombay University:—Mr. H. F. Beale, Assoc. M. Inst. C. E.; Mr. R. S. Brown; Rao Saheb Nilkant Vinayek Chhatre, B.A., L. C. E.; Mr. Krishnarao Antoba Chemburkar, B.A.; Mr. J. G. Covernton, M.A.; Divan Bahadur Manibhai Jasbhai; Rev. E. T. Davies, M. A.; Khan Bahadur Hormusjee Dadabhoy; Rev. R. M. Gray, M.A.; Assistant-Surgeon Navrojee Kavasjee Kalyanvala, L. M. and S.; Surgeon-Major R. W. S. Lyons, M.D.; Surgeon-Major F. F. MacCartie, M.B., B. Ch; Mr. Kahandas Keshavdas Modi, B.A.; Mr. Mirza Mahomed Jafarkhan, Muklis Alikhan; Mr. Kalabhai Lallubhai Munsiff; Assistant-Surgeon Behramjee, Hormosjee Nanavati, L. M. and S.; Mr. Platford Reynolds, M. Inst. C. E.; Mr.

Basil Scott, B.A., Barrister-at Law; Mr. Kamlashankar Branshankar Trivedi, B.A.; the Hon'ble Mr. Narvojee Nassarwanjee Wadia, C. I. E.; and Revd. W. H. Wallrath, S. J.

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The following is the address to be presented on the 20th June 1897 to Her Imperial Majesty Victoria, Queen of Great Britain and Ireland, Empress of India, by the Sarvajanik Sabha, Poona, on the occasion of the Diamond Jubilee.

"We have been instructed by the Managing Committee of the Poona Sarvajanik Sabha (People's Association) to convey on behalf of the Sabha as well as the people of the city of Poona and the Deccan generally, their heartfelt joy and thankfulness at the approaching sixtieth anniversary of Your Majesty's accession to the throne: and we beg to submit this humble and loyal address in token of the sentiments of loyalty and veneration which all classes of the people in the Deccan feel towards Your Majesty.

Poona is the second city in the Bombay Presidency. As the old capital of the Peshwas and the favourite resort of the local Government during the greater part of the year, it may fairly claim to hold a unique position in Western India. It is the centre of all kinds of new activities and still maintains its character as the leading town in the Deccan. It enjoys special privileges in matters of Local Self-Government and is looked upon as a better exponent of genuine native thought and native feeling than any other town in the presidency. The Poona Sarvajanik Sabha is the oldest political association in the Deccan, being established 27 years ago to represent the wants and wishes of the people to the authorities in a proper and constitutional manner. Since its foundation, it has continued to perform this difficult task in a firm and loyal spirit and successive Viceroys and Governors like Lord Ripon, Lord Dufferin, and Lord Reay have testified to its services by inviting its opinion and acknowledging the usefulness of its advice, and the representations which the Committee of the Sabha from time to time addresses the Government are usually treated with the utmost courtesy and consideration. Composed as it is of Chiefs, Sirdars, Landholders and Representatives of the educated and other classes in the Deccan, the Sabha may fairly claim to speak in the name of the whole people, and is bound as such to voice the universal feeling of loyalty and gratitude which the people of this province entertain for the inestimable benefits enjoyed by them during the last sixty years of Your Majesty's reign.

To enumerate these benefits would be only recapitulating things that are patent to everybody and that have been repeatedly acknow-

ledged. Since the country passed under Your Majesty's direct rule it has made a rapid and steady progress in all directions. The gracious promises contained in Your Majesty's Proclamation of 1858 and repeated on several occasions afterwards have fully reconciled the Indian people to Your Majesty's beneficent rule and made them regard that document as their Magna Charta upon which all their future hopes and aspirations are founded. During a period of internal peace and tranquillity unexampled in the history of India the people had an opportunity to improve their moral and material condition such as they never had had before. The opening of railways and canals has increased the commerce and developed the resources of the country to a remarkable extent while the introduction of the post and telegraph has made communication between distant provinces speedy and convenient. The establishment of Universities and Colleges has given a strong impetus to the study of Western sciences and literature, the knowledge of which is now gradually permeating the various classes of the Indian people. The study of the English language has not only furnished a *lingua franca* to the educated classes throughout India, but also infused into them a higher sense of their public rights and responsibilities. The old traditions of exclusiveness and mutual distrust are crumbling beneath the altered conditions of life and knowledge ; while new ideas and ties are silently operating to weld the scattered elements of the Indian Society into one composite nation. Identity of interests and consciousness of being the subjects of the same sovereign are fast uniting the people of different races and communities into one indissoluble bond of common citizenship and brotherhood. The wave of loyal and joyful sentiments which has passed from one end of the country to the other on the present auspicious occasion is only one of many signs that the Indian heart has begun to throb at a common impulse and for a common object.

The devotion which the Indian people feel for your Majesty is as much personal as it is prompted by a sense of their duty as loyal subjects. They have come to regard their sovereign as a kind and loving parent who amidst all her distracting cares and duties never fails to express her solicitude for her poorest subjects in their hours of distress. The recent message conveying Your Majesty's wishes that no person in India should die of starvation came to the heart of the Indian ryot as a bright ray of hope in the gloom of the impending famine. Grateful as the Indians are known to be, they will never forget the sympathy thus shown to them at the time of their greatest misfortune. The Indian peasant will always bless the name of Your Majesty, and his fondest wish is still to see the face of a sovereign who has proved so much of a mother to him. The people of the Deccan especially have always been

delighted to picture in Your Majesty an ideal mother and an ideal Queen and their only regret is that they cannot pay their homage personally to her. The brave and faithful Maratha would have deemed it his highest privilege to join as a volunteer in the Jubilee festivities in London and thereby give a practical proof of his loyalty and devotion which he feels for Your Majesty. A time will however come when the people of India will enjoy this and the other privileges in common with Your Majesty's British subjects.

In this hope and confidence we tender our homage of love and loyaty to the Throne, and we pray that God Almighty may bestow His choicest blessings upon Your Imperial Majesty, and upon their Royal Highnesses the Prince and Princess of Wales and the other Members of the Royal Family."

* * *

The following Despatch from the Secretary of State for India No. 6, Financial (Stores), dated 18th March 1897, has been sent to us for publication by the Director of Public Instruction. Special attention is drawn to the instructions contained in para. 2.

"I am informed that in many instances when complaints happen to be made by indenting officers or others respecting the quality of stores sent to India by the Stores Department of this office samples of the articles in question are not sent home.

"2. It is important that, except when it would be impracticable owing to the perishable nature of the stores, samples should invariably be forwarded for the guidance of the Director-General of Stores in this office in investigating the complaint, and I request that instructions may be issued accordingly to all officers concerned."

MADRAS.

The question papers for the Teachers' Certificate examination held in April 1897, which were printed in the last issue of the Journal, were set at the examination held at Madras.

* * *

The Principal has notified that the Teachers' College, Saidapet, will re-open after the Midsummer vacation on Monday, the 19th July 1897.

* * *

The Director of Public Instruction, with a view to give teachers a clear idea of the scope of the subject of Discipline as taught in Training Schools has approved of the following syllabus prepared by the

Principal and the Vice-Principal of the Teachers' College, Saidapet.

DISCIPLINE AND MORAL TRAINING.

1. *Discipline*—

(*a*) What it embraces; (*b*) The immediate school values of it; (*c*) Characteristics of good discipline; (*d*) Special requisites in a teacher for the purpose of maintaining discipline.

2. *Aims of Discipline*—

(*a*) Order, attention, diligence and obedience—the meaning, value, causes of violating and means of promoting each of them; (*b*) Truthfulness, honesty, kindness, neatness and cleanliness, regularity and punctuality—the importance and the means of promoting these; (*c*) Formation of habits and character.

3. *Characteristics of child-life*—

(*a*) The leading emotions, the formation of motives and the influence of the will; (*b*) The chief instincts and motives—activity, imitation, curiosity, sympathy, emulation, fear; (*c*) Pleasure and pain as motives.

4. *Means of securing Discipline*—

(*a*) External arrangements—a good organization, drill, a code of rules; (*b*) The authority of the teacher; (*c*) Public opinion—the meaning of it, its influence, and how it is formed in a school; (*d*) The use and management of the instincts and motives; (*e*) Rewards and punishments—their values and the conditions of their usefulness.

5. *Moral Training*—

(*a*) The aims and scope of moral training in a school; (*b*) The functions of the teacher; (*c*) The influence of example and precept.

6. *Rewards*—

(*a*) Reasons for and against their use; (*b*) The common kinds of rewards in a school—the value, the need and the manner of use of each.

7. *Punishments*—

(*a*) The necessity, the object and the nature of punishments generally; (*b*) how to minimise them; (*c*) the common kinds of punishments in a school—the occasion, the efficacy and the use of each kind; (*d*) General rules for the infliction of punishments.

He further recommends the following books for reference on the subject. 1. Landon's School Management; 2. National Society's Teachers' Manual.

* * *

The Rev. E. Sell, B.D., and Mr. J. B. Bilderbeck, M.A., Professor of English, Presidency College, have been appointed by Government to be members of the Text-book Committee.

The Hon'ble Dr. D. Duncan, Director of Public Instruction, has just returned to Madras from a short tour of inspection on the Neilgherries.

* * *

The College of Agriculture, Saidapet, will reopen after the summer vacation and commence a new session on Wednesday, 7th July, 1897.

* * *

The Hon'ble Dr. D. Duncan, Director of Public Instruction, goes on privilege leave for 2 months and 29 days from the 24th June 1897. Government has not yet decided who should be his *locum tenens.*

* * *

On the recommendation of the Director of Public Instruction, Government has ordered that no fees be charged for Primary Examination certificates issued to the pupils passing out from the Reformatory School, Chinglepat.

* * *

It will be a matter of surprise to our readers to learn that out of 8 meetings of the committee of visitors of the Reformatory School convened during 1896, as many as 7 had to be adjourned for want of a quorum. The Director of Public Instruction in his review on the work of the school rightly remarks that the quorum might easily have been secured if the resident members, who are seven in number, had made greater efforts to attend.

* * *

The Government of Mysore has decided to send to the Medical College three Brahman women to be trained as midwives, and they are to receive a scholarship of Rs. 10 each per mensem while under training.

* * *

The following is the analysis of the books published in the Madras Presidency during the first quarter of 1897. As will be seen from the figures, the largest number of books written were on Religion, most of them being extremely small publications. The decrease in the numbers under the more important subjects is very striking :—

Religion	95	Art	4
Language	31	Drama	4
Poetry	24	Politics	3
Miscellaneous	17	Medicine	3
Natural Science ...	8	Travels	1
Mathematics	7	Law	1
Biography	5	History	1
Fiction	4		
		Total...	208

Candidates for Technical Teachers' Certificate Examination of the Elementary grade in Drawing are required to teach the second form in that subject before the Board of Examiners.

* * *

Mr. G. H. Stuart, Principal of the Presidency College, is a candidate for election to the Legislative Council, on behalf of the University, the others being Mr. J. Adam and Mr. N. Subramaniem, Barristers-at-Law.

* * *

We are glad to learn that the staff of the Government School of Commerce, Calicut, is to be strengthened by the appointment of an additional assistant who will be able to give instruction in three or four technical subjects. This institution at present prepares candidates for the Government Technical Examinations in book-keeping, commercial correspondence, banking, commercial geography, shorthand and type-writing.

* * *

The proposal made by one of the members of the Madras Municipal Commission, that lady graduates be included in the list of voters of the Madras Municipality fell through, on the ground that the number of such persons resident in Madras was very small and that, therefore, it was not worth while troubling Government to amend the Municipal Act to include them as voters.

* * *

Emile, by J. J. Rousseau has been prescribed by the University as a text-book in the History of Education for the special portion of the L.T. degree examination for 1899.

* * *

Mr. G. H. Stuart, Principal of the Presidency College, has been elected Secretary of the Madras School-Book and Literature Society, in place of Mr. E. H. Elliot who has resigned his appointment.

* * *

The Medical College closed for the summer vacation on the 10th instant, and will re-open on Monday, the 2nd August next.

* * *

The Director of Public Instruction has issued the "Madras Inspection Code." For the modest sum of eight annas any one can learn the duties of Inspectors and Inspectresses, Assistant Inspectors, Sub-Assistant Inspectors and Sub-Assistant Inspectresses, Inspecting Schoolmasters, and Superintendents of Hill Schools; and can make himself acquainted with the numerous and complicated returns which these officers have to submit. The provisions of the code are intended to be

complete harmony with the various codes and regulations issued from time to time by Government and the Department. The code, now issued, appears to be a very complete one, and inspecting officers of all grades will no doubt mark, learn, and inwardly digest it.

* * *

The Report for the year 1896 of the Madras Teachers' Guild has been issued and shows that the Guild, which was formed on 2nd November 1895, has already justified its existence. During the year ten meetings were held. Groups of members of the Guild paid visits to the College of Engineering, the Museum, and the Madras Railway Workshops at Perambur. The Educational Conference was held under the auspices of the Guild on 21st and 22nd December and was largely attended. A library of 1,242 books has been formed. The Guild Rooms do not seem to have attracted as many frequenters as they might have done. The Registry of teachers has enabled those desirous of being employed in education to make their wishes known. The finances were in a flourishing condition. The income of the year was Rs. 633-12-0, excluding a balance of Rs. 4-13-6, which remained over from last year. The expenditure amounted to Rs. 472-13-3.

* * *

The Report of the College of Engineering for the calendar year 1896 has been published. It is not quite clear why this institution should write its report for the calendar year while all other Government Colleges do so for the official year only. This remark is made with the full knowledge that the Principal of the College of Engineering issues a supplementary report for January, February, and March. The strength decreased from 231 in 1895 to 225 in 1896. Of the six candidates for the B.E. degree, four passed. For the F.E. examination six passed out of eight. At the examinations held by the College Board, all the classes did well except the Draftsman class. The figures were as follows :—

Class.	*Candidates.*	*Passed.*
Engineer	6	6
Engineer Subordinate ...	18	14
Surveyor	20	17
Draftsman	24	11

The net cost of educating each student was Rs. 252, but this takes no account (why, the report showeth not) of outlay on workshop fittings, and on buildings. The Director remarks that "the administration of the College was on the whole fairly satisfactory and its working was creditable to the Principal, the Professors, and the Staff."

We have to thank the Board of Revenue (Revenue Settlement, Land Records and Agriculture) for sending us a neatly got-up and well printed "Report on the Operations of the Department of Land Records and Agriculture for the official year 1895-96."

* * *

M.R.Ry. K. Sundararama Aiyar, M.A., Lecturer, Kumbakonam College, has been appointed 1st Lecturer, Maharajah's College, Trevandrum, in the place of the late Rai Bahadur P. Sundaram Pillai.

* * *

With a view to lessen the number of unqualified teachers in the Chingleput district, the District Board has resolved to withhold 50 per cent. of the results grants from such of the men as refuse to attend a Sessional School.

* * *

Mr. J. P. Lewis, Deputy Superintendent, Reformatory School, Chingleput, has been appointed to act as Superintendent, Madras School of Arts, for 3 months from the 11th inst. in the place of Mr. Edwin Holder who has gone on privilege leave. Mr. J. Coombes, Assistant, Madrasa-i-azam acts for Mr. Lewis as Deputy Superintendent, Reformatory School, Chingleput.

* * *

The Travancore Government has resolved to establish Educational Boards throughout the State. The chief duty of Educational Boards shall consist in the collection of information relating to the state of education in the various villages and among the various sections of the community comprised within the areas respectively prescribed; the educational requirements of these villages and their populations, and the extent to which existing schools satisfy these requirements. Such information may form the basis of the recommendations of the Board with regard to the opening of new schools under Government management and the allotment of grants to the various schools in the district. Members of Educational Boards are empowered to visit any aided or Government school within the District; and Boards may, in this collective capacity, submit to the Inspector of Schools any representation they may consider fit, regarding the efficiency of teaching, discipline or management of such schools. A copy of the proceedings of each meeting of every Board shall be transmitted to the Inspector of Schools who shall, in due course, forward the same to Government with his proceedings or remarks thereon. It is stated that the persons nominated as members of any Board shall, as far as practicable, represent the various sections of the community..

The Tinnevelly Hindu College Day will be celebrated on Monday, the 21st June 1897. The idea of celebrating the College Day just on the occasion of Her Majesty's Diamond Jubilee is a very happy one.

PUNJAB.

Lala Amolak Ram, Assistant Inspector of Schools in the Punjab Provincial Educational Service, has been appointed Tutor and Guardian to the Guru of Kartarpur, and the following promotions and appointments have been made in consequence:—Miss Francis, Inspectress of Schools, Punjab, is promoted to Rs. 300 grade and will continue to hold the *sub pro tem* grade of Rs. 350; Lala Sheo Lal, B.A., Assistant Inspector of Schools, Rawalpindi Circle, is promoted to the Rs. 250 grade Bhai Ram Singh, Vice-Principal, School of Art, Lahore, is promoted to the Rs. 200 grade; Lala Fath Chand, B.A., is appointed Assistant Inspector of Schools in the grade of Rs. 150.

In consequence of the promotion of Miss Francis, the following *sub pro tem* promotions and appointments are made:—

Lala Nand Kishor, B.A., Assistant Inspector of Schools, Delhi Circle, to hold the grade of Rs. 300; Lala Ghir Diyal, M.A., Assistant Inspector of Schools, Lahore Circle, to hold the grade of Rs. 250; Lala Fath Chand, B.A., Assistant Inspector of Schools, Jullundur Circle, to hold the grade of Rs. 200; Lala Kundan Lal, B.A., to be *sub pro tem* Assistant Inspector of Schools, in the grade of Rs. 150.

* * *

The Lieutenant-Governor of the Punjab, with the Director of Public Instruction, visited Islamia College and Boarding Orphanage, Lahore, on the 10th May 1897. There were 823 boys present, who were inspectde for more than an hour. Enquiries were made as to the number of teachers and their qualifications, and as to the income and expenditure of the Institutions. The Director praised the highly efficient work, and pronounced the school to be the biggest and best managed private institution of its kind in the province.

* * *

The Director of Public Instruction, with a view to secure a larger number of hospital assistants, has increased the number of scholarships tenable in the local Medical School, and has communicated the order to the Headmasters of all Anglo-Vernacular Secondary schools for the information of their pupils.

The Punjab University Law School, which has now 433 students on its rolls, will be thoroughly reconstituted and the Syndicate has approved, with slight modifications, the following proposals drawn up by the Law Faculty—*viz.*, that the law lecturer be not an *ex-officio* Fellow, that the Lecturer and Assistant Lecturer be appointed for a fixed period, three or four years, and an additional Lecturer be appointed if the present course of three years be retained, that fees should not be raised, or dates of examination changed, that a boarding house be established, and that a governing board be appointed for the general management of the school and a time-table prepared and submitted to it for approval.

The income from fees for the current year is estimated at Rs. 34,000, whereas the expenditure on the present establishment of the school is only a fourth of this amount.

* * * *

Subscriptions are being collected for the establishment of a Hindu Technical Institute at Lahore. Nearly Rs. 6,000 have already been promised.

REVIEWS OF BOOKS.

WORDSWORTH: "EXCURSION," BOOK I, with Introduction and Notes. By M. T. Quinn, M.A., late Principal and Professor of English Language and Literature, Pachaiyappa's College, Madras. *George Bell and Sons*, London and Bombay. 1897.

Wordsworth's "Excursion" Book I. is prescribed for the First-in-Arts examination of the Madras University in 1898. Mr. Quinn had sufficient experience of Madras students to know the requirements of F. A. candidates and he has fully met these requirements. The publication under notice commences with a biographical sketch of Wordsworth, extending over 17 pages. This is followed by an "Introduction," of equal length, devoted specially to the text and this portion the student will find of much value, for in it are discussed the following:—"The Excursion" a part of "the Recluse"; Meaning of the title; Criticisms; Metre; Dramatis Personæ; Date of composition, scene, and special features of Book I. The text is a reprint of Wordsworth's latest text, that of 1849-50. Thirty-five pages of notes are given and these are of a kind which F. A. students require. The book is well printed and neatly got up.

SHAKESPEARE: "KING JOHN." Edited by Mark Hunter, M. A., with an "Introduction on Shakespeare," by F. W. Kellett, M. A. *Srinivasa, Varadachari and Co.*, Madras. Rs. 1-8-0.

Shakespeare's "King John" is prescribed for the Madras F. A. of 1897. A life of Shakespeare is given and this is followed by four well written articles, *viz*:—The Drama before Shakespeare; the Works of Shakespeare; the Theatre in Shakespeare's time and Shakespearian criticism. The introduction to "King John," comes next and the study of this portion should enable an average F. A. student to answer most of the questions likely to be set on the text. The text itself is very clearly printed. More than half the book is devoted to "Notes" and "Appendices" and these occupy nearly 200 pages. The book fully meets the requirements of those for whose benefit it is brought out. It is well printed and got up.

POCKET ATLAS AND GAZETTEER OF THE WORLD. By G. W. Bacon, F.R.G.S. *Messrs. G. W. Bacon and Co.*, 127, Strand, London. 1897.

This publication is not apparently meant for use in schools. It is intended for the convenience of the general public for ready reference. Sixty maps are included and to most of the maps are attached statistics of population, area, &c. An etymological glossary, an index, and a gazetteer of the principal towns of the world are given.

CROMWELL'S PLACE IN HISTORY.—By Samuel Rawson Gardiner, D. C. L., Ford's Lecturer in English History. 1896. *Longmans, Green, and Co.*, London, New York and Bombay. Price 3*s*. 6*d*.

This work is founded on six lectures delivered by the author at Oxford, though the lectures, for the purpose of appearing in book form, have been recast. The lectures do not deal with the biography of Cromwell but attempt to estimate his relation to the political and ecclesiastical movements of his time, showing how he was influenced by them and influenced them in turn. Lecture I. deals with "the Puritan and Constitutional Opposition"; lecture II. with "Cromwell in the Civil War"; lecture III. with "the Commonwealth and the three nations;" lecture IV. with "Cromwell and the Parliaments of the Commonwealth"; lecture V. with "the Protectorate;" lecture VI. is a recapitulatory one.

The popular tradition of Cromwell is that "he won battles; he cut off the king's head; he turned out Parliaments by military compulsion; he massacred the Irish at Drogheda; he made England respected by land and sea." The author goes on to remark:—"To the

student who deals with the details of Cromwell's life a picture very different from that of the popular tradition is apt to present itself." It is on this text that the lectures were hung. To those who desire a scientific and at the same time fascinating exposition of an historical question, we can confidently recommended the work under review. The book is neatly bound and clearly printed.

Ancient Classics for English Readers, edited by W. Lucas Collins. *William Blackwood and Sons*, Edinburgh and London.

We are in receipt of "Horace" by Sir Theodore Martin, priced 1*s*. and of "Virgil" by the Editors. Both books give lives of the classical authors, with which they deal, together with critiques of their works.

NOTIFICATIONS.

BOMBAY.

List of appointmens in the Educational Department for the month of May 1897.

8th May 1897.—Mr. S. G. Vin is appointed 8th Clerk in the Office of the Educational Inspector, Northern Division; Mr. G. M. Jhote is confirmed as 1st Clerk in the Ahmedabad Training College; Mr. G. D. Mehtaji is appointed 2nd Clerk in the Office of the Deputy Educational Inspector, Kaira Sub-Division; Mr. M. P. Mehta is appointed 2nd Clerk in the Ahmedabad Training College; Mr. C. V. Pandya is confirmed as 2nd Clerk in the Office of the Deputy Educational Inspector, Surat Sub-Division; Mr. K. K. Dave is confirmed as 2nd Clerk in the Office of the Deputy Educational Inspector, Broach Sub-Division; Mr. J. J. Kapadia is appointed 2nd Clerk in the Office of the Deputy Educational Inspector, Panch Mahals and Rewakantha Sub-Division.

14th May 1897.—Mr. Bansiram Valabdas Tolani is confirmed as 3rd Clerk in the Office of the Educational Inspector, Sind; Mr. Ghanshamdas Ramandas Hirdani is confirmed as Head Clerk in the Office of the Deputy Educational Inspector, Karachi; Mr. Nirbhdas Naraindas Wadhwani is confirmed as 4th Clerk in the Office of the Educational Inspector, Sind; Mr. Hiranand Ramkrishna Hathiramani is appointed Local Board Clerk in the Office of the Educational Inspector, Sind; Mr. Rahumal Chelaram Hathiramani is appointed Clerk in the Training College, Hyderabad; Mr. Shamdas Dariadinomal Sujansingani is confirmed as 5th Clerk in the Office of the Educational Inspector, Sind.

MADRAS.

TEACHERS' CERTIFICATE EXAMINATION.

It is hereby notified that the Practical Test Examination for Teachers' Certificates will be held in the Western Circle by the Inspector of Schools at the following centres on dates mentioned against each :—

Centres.	Dates of Examination. First time.	Dates of Examination. Second time.
Ootacamund	14th June 1897	...
Coimbatore	23rd and 24th July 1897	20th and 21st March 1898.
Salem	26th to 28th August 1897	...
Trichinopoly	27th to 29th September 1897	8th and 9th March 1898.
Palghat	18th and 19th October 1897	...
Mangalore	2nd and 3rd December 1897	...
Cannanore	13th December 1897	...
Tellicherry	13th and 17th December 1897	...
Calicut	20th to 22nd December 1897	30th and 31st March 1898.
Cochin	17th February 1898	...

It is hereby notified that the Practical Test Examination for Teachers' Certificates will be held in the Southern and Western Circles by the Inspectress of Girls' Schools at the following centres during the week mentioned against each :—

Names of Centres.	Date of Examination.
Calicut	First week in April and 2nd week in December 1897.
Ootacamund	First week in June 1897.
Salem	Second week in July 1897.
Chittoor	Fifth week in July 1897.
Coimbatore	Second week in August 1897.
Trichinopoly	First week in September 1897 and 2nd week in March 1898.
Tanjore	Second week in September 1897.
Cuddalore	Fifth week in September 1897.
Cochin	First week in November 1897.
Mangalore	First week in December 1897.
Nazareth	Third week in February 1898.
Palamcottah	Do.
Madura	Fourth week in February 1898.

Office of Secy. to the Board of Exrs. for Teachers' Certificates, MADRAS, *10th May* 1897.

G. H. STUART,
Secretary.

APPOINTMENTS AND TRANSFERS.

The Director of Public Instruction makes the following appointments and transfers among Sub-Assistant Inspectors of Schools :—

	Name.	Designation of present post.	Post to which appointed.	Remarks.
1.	M.R.Ry. T. Ramalingam Pillai.	Sub-Assistant Inspector of Schools, Madura Range.	Sub-Assistant Inspector of Schools, Markapur Range.	*Vice* M.R.Ry. K. Singarachari, who retires on the 1st July 1897.
2.	„ S. Saundararaja Aiyangar.	Do. Tindivanam Range.	Do. Madura Range.	*Vice* No. 1. To join on relief.
3.	„ R. Krishnamachari.	Sub. *pro tem.* do. Pollachi Range.	Do. Tindivanam Range, sub. *pro tem.*	*Vice* No. 2. Do.
4.	„ C. Ramalinga Aiyar.	Provisional do. Ongole Range.	Do. Pollachi Range.	*Vice* No. 3. Do.
5.	„ S. Hanumanta Rau.	Sub-Assistant Inspector of Schools, Bellary Girls' Range, Acting Sub-Assistant, Nandyal Range.	Do. Ongole Range.	*Vice* No. 4. Do.
6.	„ N. Srinivasa Aiyangar.	Do. Hosur Range ...	Do. Nandyal Range.	*Vice* No. 5. Do. by No 7.
7.	„ T. R. Venkatarama Aiyar.	Do. Cuddapah Range...	Do Hosur Range.	*Vice* No. 6. To deliver charge to his clerk after submission of the annual report and returns and to join.
8.	„ P. Appalanarasayya.	Headmaster, Municipal Middle School, Bimlipatam.	Sub Assistant, Cuddapah Range.	*Vice* No. 7. To join on 1st July next, subject to the approval of the Municipal Council, Bimlipatam.
9.	M.R.Ry. P. Bheemasena Rau.	Sub-Assistant Inspector of Schools, Bandar Range, sub. *pro tem.*	Sub-Assistant Inspector of Schools, Bapatla Range, sub. *pro tem.*	*Vice* M.R.Ry. M. Venkayya transferred. } To take effect after the submission of the annual report and returns.
10.	„ M. Venkayya ...	Do. Bapatla Range.	Do. Bandur Range.	*Vice* No. 1. }
11	„ H. Swami Rau ...	Do. Nandyal Range, and Acting Sub Assistant Inspector of Schools, Rajahmundry Girls' Range.	Do. Bellary Girls' Range, but to continue to act as Sub-Assistant Inspector of Schools, Rajahmundry Girls' Range.	*Vice* M.R.Ry. S. Hanumanta Rau transferred.

V. KALYANARAM IYER,

BOOKSELLER & PUBLISHER, MADRAS.

Some Standard Novels, printed on good paper in clear type and strongly bound in cloth.

	RS. A.
Dumas' Monte Cristo; Twenty Years After; Three Musketeers; Vicomte De Bragelonne; Taking the Bastille; Chavalier de Maison Roque; each.	1 12
Victor Hugo's Notre Dame; Under Sentence of Death; Toilers of the Sea; each	1 12
——Les Miserables	3 12
Eugenesue's Mysteries of Paris and The Wandering Jew, in 1 vol. ...	2 3
Scott's Ivanhoe; Quentin Durward; Talisman; Waverley; Old Mortality, in 2 vols., illustrated with many fine engravings, large type; each set	3 8
Geo. Eliot's Middlemarch; Daniel Doranda; each	5 10
——Felix Holt; Mill on the Floss; each	2 0
——Scenes of Clerical Life... ...	2 4
——Silas Marner	1 14
C. Yonge's Pillars of the House, in 2 vols.; The Three Brides; Clever Woman of the Family; each vol....	2 10
Walter Besant's Revolt of Man ...	2 10
R. L. Stevenson's Treasure Island; The Black Arrow; Kidnapped; Island Night Entertainments; each	2 8
A. Forbes' Memories and Studies of War and Peace	2 8
Troy Town; Delectable Duchy; Dead Man's Rock, by Q.; each ...	2 8
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